UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Note to Reader

Background: As part of its effort to involve the public in the implementation of the Food Quality Protection Act of 1996 (FQPA), which is designed to ensure that the United States continues to have the safest and most abundant food supply. EPA is undertaking an effort to open public dockets on the organophosphate pesticides. These dockets will make available to all interested parties documents that were developed as part of the U.S. Environmental Protection Agency's process for making reregistration eligibility decisions and tolerance reassessments consistent with FQPA. The dockets include preliminary health assessments and, where available, ecological risk assessments conducted by EPA, rebuttals or corrections to the risk assessments submitted by chemical registrants, and the Agency's response to the registrants' submissions.

The analyses contained in this docket are preliminary in nature and represent the information available to EPA at the time they were prepared. Additional information may have been submitted to EPA which has not yet been incorporated into these analyses, and registrants or others may be developing relevant information. It's common and appropriate that new information and analyses will be used to revise and refine the evaluations contained in these dockets to make them more comprehensive and realistic. The Agency cautions against premature conclusions based on these preliminary assessments and against any use of information contained in these documents out of their full context. Throughout this process, If unacceptable risks are identified, EPA will act to reduce or eliminate the risks.

There is a 60 day comment period in which the public and all interested parties are invited to submit comments on the information in this docket. Comments should directly relate to this organophosphate and to the information and issues available in the information docket. Once the comment period closes, EPA will review all comments and revise the risk assessments, as necessary.

These preliminary risk assessments represent an early stage in the process by which EPA is evaluating the regulatory requirements applicable to existing pesticides. Through this opportunity for notice and comment, the Agency hopes to advance the openness and scientific soundness underpinning its decisions. This process is designed to assure that America continues to enjoy the safest and most abundant food supply. Through implementation of EPA's tolerance reassessment program under the Food Quality Protection Act, the food supply will become even safer. Leading health experts recommend that all people eat a wide variety of foods, including at least five servings of fruits and vegetables a day.

Note: This sheet is provided to help the reader understand how refined and developed the pesticide file is as of the date prepared, what if any changes have occurred recently, and what new information, if any, is expected to be included in the analysis before decisions are made. **It is not meant to be a summary of all current information regarding the chemical.** Rather, the sheet provides some context to better understand the substantive material in the docket (RED chapters, registrant rebuttals, Agency responses to rebuttals, etc.) for this pesticide.

Further, in some cases, differences may be noted between the RED chapters and the Agency's comprehensive reports on the hazard identification information and safety factors for all organophosphates. In these cases, information in the comprehensive reports is the most current and will, barring the submission of more data that the Agency finds useful, be used in the risk assessments.

Jack E. Housenger, Acting Director
Special Review and Reregistration Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
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TOXIC SUBSTANCES

10/19/99

MEMORANDUM

SUBJECT: **Mevinphos: Registrant's Response to Residue Chemistry Data Requirements.** Chemical I.D. No. 015801. Case No. 0250. DP Barcodes D196769 and D248311.

FROM: William J. Hazel, Ph.D., Chemist
Reregistration Branch 1
Health Effects Division (7509C)

THRU: Whang Phang, Ph.D., Branch Senior Scientist
Reregistration Branch 1
Health Effects Division (7509C)

TO: Joseph Nevola/Robert McNally (PM 60)
Special Review and Reregistration Division (7508W)

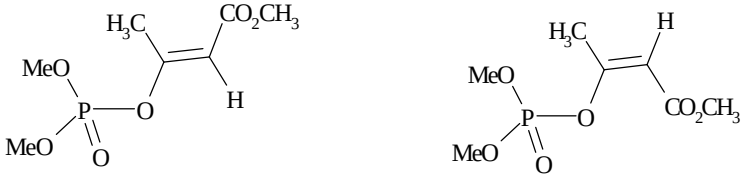
Attached is an HED review of **Mevinphos** field trials conducted by AMVAC Chemical Corp. This review was written by Dynamac Corp., an EPA contractor, and has been revised to reflect current Agency policies.

AMVAC intends to support tolerances (to prevent their revocation) for mevinphos residues in or on several fruits and vegetables to permit importation of these commodities from Mexico into the U.S. Mevinphos is not an active ingredient in any product registered in the U.S., i.e., all mevinphos-containing products have been cancelled in the U.S. The current registrant in Mexico is an American Cyanamid Co. (AMCY) subsidiary although AMVAC is reportedly planning to take over that registration. Note that mevinphos is reportedly also marketed in areas other than Mexico such as Europe, Australia, Thailand, and the Republic of South Africa (personal communication with Ian Chart of AMVAC, 7/23/99). Mevinphos appears also to be used in South America as most positive grape samples monitored by USDA's Pesticide Data Program originated in Chile. HED remains uncertain of the use directions to appear on Mexican labels. The current AMCY use directions do not agree with the parameters of the recent field trials conducted in Mexico. AMVAC claims that the Mexican label will be amended to reflect the Mexican field trial parameters.

To permit mevinphos tolerance reassessment, one or more additional field trials have been required for all commodities except cucumbers and melons. These field trials are all to be conducted in Mexico with the exception of several grape trials also to be conducted in Chile, Argentina, and Europe. Tolerance reassessment cannot occur until these additional field trials have been completed, until supporting storage stability data have been submitted, and until the revised use directions to officially appear on Mexican labels have been received by the Agency.

cc: W. Hazel (HED), C. Olinger (HED), F. Fort (HED), List A Reg. Std. File, RF
RRB1:CM2:722J:WHazel:305-7677:wjh:10/19/99
RDI: RRB1 ExpoTeam:10/6/99:ChemSAC:10/6/99:W.Phang:10/18/99

MEVINPHOS



(PC Code 015801, Case No. 0250)

DP Barcodes D196769 and D248311

REGISTRANT'S RESPONSE TO RESIDUE CHEMISTRY DATA REQUIREMENTS

BACKGROUND

Due to concerns over agricultural worker exposure and safety, U.S. registrations for products containing mevinphos were voluntarily canceled by AMVAC Chemical Corporation effective 7/1/94 (*59 FR 38973, 8/1/94*). The Agency subsequently proposed revoking all mevinphos tolerances (*60 FR 39302, 8/2/95*). However, in a 10/31/95 response to this proposal, AMVAC requested that the Agency not revoke tolerances for mevinphos residues in/on selected fruits and vegetables as AMVAC was supporting the continued use of mevinphos in Mexico on commodities which are imported into the U.S. The uses being supported in Mexico include applications to the following crops: broccoli, cabbage, celery, cucumbers, grapes, lettuce (head and leaf), melons, peppers, peas (succulent, pods), spinach, squash (summer), strawberries, and tomatoes.

To support import tolerances for mevinphos residues in/on these commodities, AMVAC proposed using residue data from existing U.S. field studies, Mexican field studies, and Mexican monitoring data generated by Green Giant Co. (Irapuato, Mexico). HED reviewed this proposal (DP Barcodes D223005 and D227401, G. Kramer, 7/17/96) and concluded that it was acceptable provided that (i) the maximum use rates and minimum PHIs used in the U.S. and Mexican field studies and at the farms participating in Green Giant's Mexican monitoring program corresponded to those specified on the Mexican mevinphos labels; (ii) Green Giant's QC protocols do not differ substantially from GLP standards; (iii) monitoring data were available from several years; and (iv) adequate processing studies are available for grapes and tomatoes.

Several considerations jeopardize the terms of the 7/17/96 agreement: (i) monitoring data and processing studies have not yet been submitted; (ii) a different formulation was used in the Mexican field trials than was used in the trials conducted in the U.S.; (iii) the residues resulting from the trials conducted in the U.S. were higher than those conducted in Mexico in many cases; (iv) the Agency still does not know the use directions to appear on the Mexican label(s); (v) the parameters of the field trials do not agree with the current Mexican label; (vi) most positive monitoring samples of grapes originated in Chile; and (vii) the Import Tolerance Guidelines specify additional field trials than were conducted in Mexico. These and other considerations lead the Agency to reassess the need for additional field trials in spite of the 1996 agreement with AMVAC.

Currently, AMVAC has submitted data on mevinphos residues in/on Brassica vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, grapes, succulent peas, and strawberries from field trials conducted in the U.S. (1997; MRIDs 44595214-44595221, 44608501, and 44608502) and field trials conducted in Mexico (1998; MRIDs 44595201-44595213), along with radiolabeled method validation data (1993; MRID 42964601) for a proposed GC/flame photometric detection (FPD) method for tolerance enforcement. These data are reviewed here to determine their adequacy in fulfilling residue chemistry data requirements. The Conclusions and Recommendations stated in this review pertain only to storage stability, residue analytical methods, and the magnitude of the residue in plants.

The nature of mevinphos residues in plants is adequately understood based upon acceptable lettuce, strawberry, and turnip metabolism studies (DP Barcodes D183034 and D184563, S. Knizner, 2/8/93; and DP Barcode D189713, S. Knizner, 7/27/93). The residues of concern in plants include the α- and β-isomers of mevinphos. The nature of the residue in animals is also adequately understood based upon acceptable ruminant and poultry metabolism studies (DP Barcode D183036, S. Knizner, 2/1/93; and DP Barcode D189714, S. Knizner, 8/11/93). HED has concluded that residues of mevinphos in animal commodities represent a Category 3 situation [40 CFR §180.6(a)(3)], in that there is no reasonable expectation of residues in meat, milk, poultry or eggs.

Tolerances are established for residues of mevinphos (methyl-3-[(dimethoxyphosphinyl) oxy]butenoate, alpha and beta isomers, in/on numerous raw agricultural commodities, including livestock feed items [40 CFR §180.157]. Tolerances for mevinphos range from 0.2 ppm in/on citrus, cucumber, and tomatoes to 4.0 ppm in dehydrated parsley. No tolerances have been established for mevinphos residues in animal commodities. An adequate GC/FPD (phosphorus mode) method is available for data collection and has been recommended for tolerance enforcement (Mevinphos Registration Standard, 11/87). The enforcement method for determining

mevinphos residues that is currently listed as Method I in the Pesticide Analytical Methods (PAM), Vol. II is a nonspecific cholinesterase inhibition assay.

The Codex and U.S. tolerance expressions for mevinphos are compatible for plant commodities. Codex MRLs (CXL) for mevinphos are expressed as the sum of *cis*- and *trans*-mevinphos (α- and β-isomers) and range from 0.1 to 1.0 mg/kg. Issues regarding the compatibility of the U.S. tolerances and Codex MRLs will be addressed in the Reregistration Eligibility Decision for mevinphos.

CONCLUSIONS AND RECOMMENDATIONS

Directions for Use

1a. Labels or use directions for mevinphos end-use products (EPs) registered for use in Mexico were not provided with the current submissions. Assuming that the Mexican field trial data represent the maximum application rates (1x) and minimum PHIs allowed in Mexico, mevinphos (SC/L) is applied as a single broadcast application per crop season in Mexico at up to 440 g ai/ha (0.39 lb ai/A) on lettuce (leaf and head), spinach, celery, broccoli, cabbage, grapes, and strawberries and at up to 220 g ai/ha (0.2 lb ai/A) on succulent peas, tomatoes, peppers, cucumbers, summer squash, and muskmelons. The minimum PHI is 3 days for each crop except leaf lettuce (10 days), spinach (7 days), celery (5 days), and grapes (5 days). Note that these field trial parameters to not agree with the use directions on a translation of a Cyanamid de Mexico, S.A.de C.V. label provided by AMVAC 5/27/99 that permits applications as necessary at rates up to 480 g ai/ha with either a 1- or 2-day PHI. Note that the Spanish label is similar except that longer PHIs are listed for grapes (4 days), lettuce (7 days), and strawberries (15 days).

1b. Copies of revised mevinphos EP labels registered for use in Mexico on fruits and vegetables must be submitted along with translations. In addition, the exact concentration (lb ai/gal) of mevinphos in the SC/L test material used in the Mexican field studies must be provided.

Residue Analytical Methods

2. The proposed GC/FPD enforcement method, intended to replace the current nonspecific PAMII method, was adequately radiovalidated using samples from an earlier lettuce metabolism study. An independent laboratory validation of this method must be conducted in accordance with PR Notice 96-1 prior to validation of the method by the Agency if this method remains the registrant's choice for enforcement. We note, however, that α- and β-mevinphos are completely

recovered using FDA Multiresidue Protocols A and D (PAM I Sections 242.2 and 232.4); these are acceptable enforcement methods.

3. The proposed GC/FPD method is adequate for determining residues of α- and β-mevinphos in/on Brassica vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, grapes, succulent peas (pods, vines, and hay), and strawberries. The method has a reported limit of quantitation (LOQ) of 0.02 ppm for the combined residues of α- and β-mevinphos, but the method was validated only to a combined LOQ of 0.05 ppm in each matrix except strawberries (combined LOQ of 0.025 ppm).

Storage Stability Data

4a. The submitted storage stability data are adequate and indicate that mevinphos residues are stable at -20 C for up to 63 days in leafy vegetables, including Brassica. Additional data cited in the Mevinphos Registration Standard also indicate that residues of mevinphos are stable at -20 C in broccoli for up to 146 days and at 5 C for up to 43 days in cauliflower, 32 days in beet tops, 21 days in tomatoes, and 50 days in citrus fruits.

4b. The available storage stability data adequately support the residue data on lettuce (leaf and head), spinach, celery, broccoli, and cabbage. In addition, storage stability data are not required to support the grape, squash and pea vine and hay residue data as these samples were analyzed within ~1 month of collection. However, additional storage stability data are required to support the residue data on succulent pea pods, tomatoes, peppers, cucumbers, melons, and strawberries.

4c. Data are required depicting the storage stability of mevinphos residues in frozen tomatoes for up to 2 months, melons for up to 3 months, succulent pea pods and peppers for up to 4 months, strawberries for up to 5 months, and cucumbers for up to 6 months.

Magnitude of the Residues in Plants

5a. All conclusions regarding the adequacy of the available residue data are tentative until the requested labels have been reviewed (See Conclusions 1a and b). For purposes of this review, HED will assume that the application rates and PHIs used in the Mexican field trials represent the maximum rates being supported for use in Mexico and that one treatment per season will be permitted. HED also notes that the submitted U.S. field trial data are of limited usefulness in reassessing import tolerances for mevinphos, as nearly all the U.S. studies were conducted at twice the application rate of the Mexican studies. Residues

in/on commodities in the U.S. studies were also substantially higher than in the Mexican studies, even when the U.S. studies reflected the 1x rate. In addition, a different formulation was used in Mexican than in U.S. trials. For comparison, the application information and residue data from the Mexican and U.S. field trials are presented in a summary table below.

6a. Lettuce. The submitted residue data on leaf and head lettuce are not adequate. An insufficient number of tests reflecting the assumed maximum use rate (440 g ai/ha) and the assumed minimum PHI were conducted. Only a single Mexican test on leaf lettuce was conducted at 1x with a 10-day PHI, and no studies were conducted in Mexico on head lettuce. A total of 24 and 16 tests were conducted in the U.S. on leaf and head lettuce, respectively. However, 12 of the leaf lettuce tests were conducted at 2x and the 12 tests conducted at 1x had a PHI of 7 days. Mevinphos residues in/on leaf lettuce in the U.S. studies conducted at 1x (<0.025-0.291 ppm) and 2x (<0.013-0.473 ppm) were substantially higher than mevinphos residues found in/on lettuce in the single Mexican study (<0.031 ppm). For head lettuce, 8 trials were conducted at 1x with a 3-day PHI and 8 trials were conducted at 2x with a 4-day PHI. Although the residue data (<0.04-0.31 ppm) from the 12 U.S. studies on head lettuce treated at 1x support the established 0.5 ppm tolerance, the residue data generated in Mexico on all commodities except melons suggest that mevinphos residues in Mexico may be substantially lower than the existing tolerance (0.5 ppm).

6b. Based upon the data from the Mexican study, the established 0.5 ppm tolerance for residues of mevinphos in/on lettuce is too high and will be reassessed once additional data for residues in/on lettuce become available. An additional five field trials should be conducted in Mexico, two on leaf lettuce and three on head lettuce. The tests for each crop should be conducted at separate locations in major lettuce-producing regions of Mexico.

7. Spinach. The submitted residue data on spinach are not adequate. An insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI were conducted. A single Mexican test on spinach was conducted at 1x with a 10-day PHI. Although a total of eight tests were conducted in the U.S. on spinach, four of these tests were conducted at 2x and the four tests conducted at 1x had a PHI of 4 days. In addition, mevinphos residues in/on spinach in the U.S. studies conducted at 1x (<0.041-0.363 ppm) and 2x (<0.014-0.231 ppm) were substantially higher than mevinphos residues found in/on spinach in the single Mexican study ($\leq$0.023 ppm) conducted at 1x. An additional two field trials should be conducted in Mexico on spinach at different locations to support an import tolerance for mevinphos residues. The available data from Mexico indicate that the established 1.0 ppm tolerance for

residues of mevinphos in/on spinach is too high. Once additional data are available, the tolerance for spinach will be reassessed.

8. Celery. The submitted celery residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) were conducted. Only a single Mexican test on celery was conducted at 1x with a 5-day PHI. Although four additional studies were conducted in the U.S., each of these tests was conducted at 2x and mevinphos residues in/on celery from these studies (0.078-0.863 ppm) were substantially higher than mevinphos residues found in/on celery in the single Mexican study ($\leq$0.066 ppm) conducted at 1x. Two additional field trials should be conducted at two different sites in Mexico to support an import tolerance for mevinphos reissues in/on celery. Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on celery is too high and will be reassessed once additional data for residues in/on celery are available.

9. Broccoli. The submitted broccoli residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) were conducted. Only a single Mexican test on broccoli was conducted at 1x with a 3-day PHI. The five studies in the U.S. were conducted at 2x, and mevinphos residues in/on broccoli from these studies (<0.023-0.946 ppm) were substantially higher than mevinphos residues found in/on broccoli in the single Mexican study (0.166-0.261 ppm). An additional two field trials at different sites should be conducted in Mexico on broccoli at 1x to support an import tolerance for mevinphos residues. Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on broccoli may be too high and will be reassessed once additional data for residues in/on broccoli are available.

10. Cabbage. The submitted cabbage residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) were conducted. Only a single Mexican test on cabbage was conducted at 1x with a 3-day PHI. Although three additional studies were conducted in the U.S., each of these tests were conducted at 2x and mevinphos residues in/on cabbage from these studies (0.083-0.459 ppm) were substantially higher than mevinphos residues found in/on cabbage in the single Mexican study (<0.02 ppm). Two additional field trials should be conducted on cabbage in Mexico at two different locations to support an import tolerance for mevinphos residues. Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on cabbage is too high and will be reassessed once the additional data are available.

11. Peas, succulent. The submitted succulent pea residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. Only a single Mexican test on peas was conducted at 1x. Although five additional studies were conducted in the U.S. on peas, each of these tests was conducted at 2x, trials were conducted in the Pacific Northwest or Midwest, and mevinphos residues in/on pea pods from these studies (<0.013-0.078 ppm) were substantially higher than mevinphos residues found in/on pea pods in the single Mexican study (<0.02 ppm). Two additional field trials on succulent peas should be conducted in Mexico at 1x to support an import tolerance for mevinphos residues. Based upon the data from the Mexican study, the established 0.25 ppm tolerance for residues of mevinphos in/on peas is too high and will be reassessed once additional data for residues in/on peas are available.

12. Tomatoes. The submitted tomato residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. A total of six tests were conducted on tomatoes in Mexico at 1x with a 3-day PHI. Based upon the relative amount of tomatoes imported from Mexico into the U.S., a total of ten tests are required to support an import tolerance on tomatoes from Mexico. An additional four field trials should be conducted on tomatoes at 1x at different locations in Mexico. Additional storage stability data are also required to support the existing tomato residue data. Based upon the available data, the established 0.2 ppm tolerance for residues of mevinphos in/on tomatoes is too high and will be reassessed once additional data for residues in/on tomatoes are available.

13. Peppers. The submitted pepper residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. A total of three tests were conducted on peppers (bell and chilli) in Mexico at 1x with a 3-day PHI. Based upon the relative amount of peppers imported from Mexico into the U.S., a total of five tests are required to support an import tolerance on peppers. An additional two field trials should be conducted at different locations in Mexico on peppers at 1x. Additional storage stability data are also required to support the existing residue data on peppers. Based upon the available data, the established 0.25 ppm tolerance for residues of mevinphos in/on peppers is too high and will be reassessed once additional data for residues in/on peppers are available.

14. Cucumbers. Provided adequate supporting storage stability data and label directions are submitted, the available cucumber residue data are adequate. A total of 7 field trials were conducted in Mexico on cucumbers. Total mevinphos residues were <0.02 ppm in/on 14 samples of cucumbers harvested 3 days following a single foliar application of mevinphos (SC/L) at 220 g ai/ha (0.2 lb

ai/A). These data indicate the tolerance for mevinphos residues in/on imported cucumbers can be lowered to 0.05 ppm, the validated LOQ, if it is determined that the revised Mexican label directions match the field study parameters in terms of rate and number of applications and PHI.

15. Summer Squash. The submitted summer squash residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. Only a single test was conducted on summer squash in Mexico at 1x with a 3-day PHI. An additional two field trials should be conducted on summer squash at 1x in Mexico at different locations. Based upon the available data, the established 0.25 ppm tolerance for residues of mevinphos in/on summer squash may be too high and will be reassessed once additional data for residues in/on squash are available.

16. Melons. Provided adequate supporting storage stability data and label directions are submitted, the available melon residue data are adequate. A total of 5 field trials were conducted, one in Mexico and four in the U.S. (AZ). Total mevinphos residues were 0.024-0.68 ppm in/on 9 samples of melons harvested 3 days following a single foliar application of mevinphos (SC/L) at 220 g ai/ha (0.2 lb ai/A) in Mexico. Residues in/on 8 samples of melons from the U.S. field trials were $\leq$0.026 ppm. Although the four U.S. field trials were conducted at 2x (440 g ai/ha), these data supported the Mexican data and indicated that the tolerance for mevinphos residues in/on imported melons can be lowered to 0.1 ppm if the label and field trial parameters agree..

17. Grapes. Provided the use rate and PHI in the Mexican studies are supported by the requested mevinphos EP labels, the submitted grape data from Mexico partially satisfy the field trial data requirements to support an import tolerance in/on grapes. As the U.S. studies were conducted at 2x the rate used in the Mexican field studies, residue data from the U.S. study are not useful to reassess the import tolerance on grapes. We note that most of the PDP grape samples bearing detectable mevinphos residues originated in Chile. As a result, and in accordance with the Import Tolerance Guidelines, **three additional grape field trials are required from Chile, two from Italy, and one each from France and Argentina.** These trials must be supported by storage stability data (preferably concurrent) and must reflect the use directions in the countries conducted. The grape tolerance cannot be reassessed until these data have been received by the Agency.

18. Strawberries. The strawberry residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) were conducted. Only a single Mexican test was conducted on strawberries at 1x with a 3-day PHI. Although an additional 20 tests were conducted in the U.S. using the 3-day

PHI, each of these tests were conducted at 2x and mevinphos residues in these tests (0.180-1.346 ppm) were substantially higher than residues found in the Mexican study (0.196-0.246 ppm). Five out of the 40 samples from the U.S. tests exceeded the existing 1.0 ppm tolerance. Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on strawberries may be too high and will be reassessed once additional data for residues in/on strawberries are available. An additional two field trials on strawberries are required in Mexico at different locations to support an import tolerance for mevinphos residues in/on strawberries.

Magnitude of the Residue in Processed Food/Feed

19. Processing studies on grapes and tomatoes are required to support import tolerances for these crops if the imported crops are likely to be processed in the U.S. or if their processed commodities are imported from Mexico. Alternatively, the registrant may provide information/data indicating that mevinphos treated grapes and tomatoes are unlikely to be processed in Mexico or exported to the U.S. prior to processing.

Summary of application information and residue data from mevinphos field trials conducted in Mexico and in the U.S.

Crop/Commodity	Mexican studies (1997)					U.S. Studies (1993-94)				
	Rate [a] (lb ai/A)	PTI [b] (days)	No. of tests	No. of samples	Total Mevinphos residues (ppm)	Rate [c] (lb ai/A)	PTI [b] (days)	No. of tests	No. of samples	Total Mevinphos residues (ppm) [d]
Lettuce (leaf)	0.39	10	1 [e]	6	<0.02-<0.031	0.36-0.44 (1x)[f]	7	12	24	<0.025-<0.291
	--	--	--	--	--	0.71-0.87 (2x)	10	12	24	<0.013-<0.473
Lettuce (head) [g]	--	--	--	--	--	0.36-0.44 (1x)	3	8	16	<0.04-<0.31
	--	--	--	--	--	0.71-0.87 (2x)	4	8	16	<0.09-<0.42
Spinach	0.39	7	1 [e]	9	≤0.023	0.44 (1x)	4	4	8	<0.041-0.363
	--	--	--	--	--	0.87 (2x)	7	4	8	<0.014-0.231
Celery	0.39	5	1 [e]	9	<0.035-0.066	0.87 (2x)	5	4	8	0.078-0.863
Broccoli	0.39	3	1 [e]	9	0.166-0.261	0.87 (2x)	3	5	10	<0.023-0.946
Cabbage	0.39	3	1 [e]	6	<0.02	0.87 (2x)	3	3	6	0.083-0.459
Peas, succulent, pods [h]	0.20	3	1 [e]	9	<0.02	0.44 (2x)	3	5	10	<0.013-0.078
Tomatoes [h]	0.20	3	6	12	<0.02	--	--	--	--	--
Peppers [h]	0.20	3	3	6	<0.02	--	--	--	--	--
Cucumbers [h]	0.20	3	7	14	<0.02	--	--	--	--	--
Squash (summer)	0.20	3	1 [e]	6	<0.02	--	--	--	--	--
Musk melons [h]	0.20	3	1 [e]	9	0.024-0.068	0.36-0.44 (2x)	3	4	8	<0.013-<0.026
Grapes	0.40	5	6	12	<0.02-0.030	0.87-1.09 (2x)	5	4	8	<0.045-0.195
Strawberries [h]	0.40	3	1 [e]	9	0.196-0.246	0.71-0.87 (2x)	3	20	40	0.180-1.346

[a] The exact concentration (lb ai/gal) of mevinphos in the SC/L formulation used in the Mexican field trials must still be verified.

[b] PTI = Post-treatment interval.

[c] Mevinphos formulations used in the U.S. field trials included SC/L and EC formulations.

[d] Mevinphos residues reported for U.S. field trials include only values from the composited samples, not from the individually collected samples.

[e] In Mexican field trials for crops that were conducted at only one test site, three separate plots were used at the test site.

[f] The application rates used in the U.S. field trials are also expressed in terms of the maximum rate used in the Mexican field trials.

[g] As head lettuce studies were not conducted in Mexico, the maximum use rate for head lettuce in Mexico is assumed to be 0.39 lb ai/A (440 g ai/ha) with a minimum PHI of 3 days.

[h] Additional storage stability data are required to support the residue data on pea pods, tomatoes, peppers, cucumbers, melons, and strawberries.

DETAILED CONSIDERATIONS

Directions for Use

Labels or use directions for mevinphos end-use products (EPs) registered for use in Mexico were not provided with the current submissions. All of the Mexican field trials reported below were conducted using a 10.3 lb ai/gal SC/L formulation of mevinphos (89% a.i.; 62.2% α-isomer + 26.8% β-isomer). The exact concentration of mevinphos (lb a.i./gal) in the test substance was unclear as each report for the Mexican field trials described the test material both as a 89% a.i. solution with a density of 1.2354 g/mL and as a solution containing 1.2354 g a.i./mL. The translated AMCY label provides the percent active ingredient as 99% (equivalent to 1207 g ai/L). For purposes of this review, the 1.2354 g ai/mL concentration was used; however, the exact concentration of mevinphos in the test substance used in the Mexican studies must be provided.

As no label directions were provided, HED will assume for this report that the rates and PHIs used in the Mexican field trials represent the maximum application rates (1x) and minimum PHIs allowed in Mexico for the respective crops. However, label directions for mevinphos EPs registered for use on fruit and vegetable crops in Mexico must be submitted. As stated earlier, the translated AMCY label does not agree with the Mexican field trial parameters, AMVAC's translated label, or the Spanish version of AMCY's label. AMVAC claims that the use directions will be amended to reflect the parameters of the new Mexican field trials

Based upon the Mexican field trial data, a single broadcast application of mevinphos (SC/L) can be applied per crop season at up to 440 g ai/ha (0.39 lb ai/A) to leaf lettuce, spinach, celery, broccoli, cabbage, grapes and strawberries and at up to 220 g ai/ha (0.2 lb ai/A) to succulent peas, tomatoes, peppers, cucumbers, summer squash, and muskmelons. The minimum PHI is 3 days for each crop except leaf lettuce (10 days) spinach (7 days), celery (5 days), and grapes (5 days). Note that the translated AMCY label submitted by AMVAC permits applications as frequently as needed at up to 480 g ai/ha with PHIs of 1 or 2 days.

As no Mexican field trials were conducted on head lettuce, HED will assume for this report that the maximum use rate for head lettuce is 440 g ai/A with a minimum PHI of 3 days based upon the U.S. field trial data.

Residue Analytical Methods

A nonspecific cholinesterase inhibition assay (spectrophotometric and pH change) is currently listed as Method I in PAM Vol. II for enforcement of mevinphos tolerances. As this method is not specific for mevinphos residues, the Mevinphos Registration

Standard (11/87) recommended that an existing GC/FPD method be used for tolerance enforcement.

AMVAC has submitted radiolabeled method validation data (1993, MRID 42964601) for the proposed GC/FPD tolerance enforcement method and for FDA multiresidue methods (MRM). These methods were radiovalidated using samples from the earlier lettuce metabolism study (DP Barcodes D183034 and D184563, S. Knizner, 2/9/93).

For the proposed GC/FPD enforcement method, residues are extracted with acetonitrile (ACN) and filtered. Sodium chloride is added to the extract and the resulting aqueous phase was discarded. Residues in the ACN phase are then dried over anhydrous Na_2SO_4, concentrated, and redissolved in acetone. Residues of α- and β-mevinphos are determined by GC/FPD (phosphorus mode). The method LOQ was not reported.

Protocol D was used for validating the FDA MRM. Residues are extracted with acetone and partitioned with petroleum ether:methylene chloride (1:1, v/v). The organic phase is removed and dried over Na_2SO_4, and the aqueous phase is reextracted with DCM after the addition of NaCl. The organic fractions are combined and concentrated, and residues are redissolved in acetone and determined by GC/FPD (phosphorus mode). The method LOQ was not reported.

Using both methods, triplicate samples of [^{14}C]mevinphos treated lettuce from the metabolism study were analyzed along with three untreated control samples, and three control samples freshly fortified with α- and β-mevinphos each at 0.1 ppm. The analyses were conducted by Battelle, Columbus, OH. Results of these analyses are presented in Table 1.

Residues in the triplicate control samples were reported as “0 ppm". Residues of α- and β-mevinphos as determined by the proposed GC/FPD method (0.47 and 0.60 ppm) were comparable to the levels of these residues determined in the metabolism study by HPLC (0.40 and 0.62 ppm); whereas, the FDA MRM, Protocol D, recovered approximately half the level of mevinphos residues found in the metabolism study. Although the recovery of mevinphos residues from ^{14}C-treated samples was adequate using the GC/FPD method; the recovery of residues from fortified samples was uniformly low (40-49%). Recoveries of mevinphos from fortified samples using Protocol D of FDA MRM were 64-78%. No explanation was provided as to why recoveries for the GC/FPD method were so low for the fortified samples. However, no such low recoveries were noted in the method validation data that were submitted with the magnitude of the residue studies discussed below which used the same GC/FPD method. In numerous commodities, recoveries of α- and β-mevinphos routinely averaged >90% using the same GC/FPD method, and the lowest recovery noted was 69%.

The proposed GC/FPD enforcement method was adequately radiovalidated; however, an independent laboratory validation of this method must be conducted in accordance with PR Notice 96-1 prior to validation of the method by the Agency if this method remains the registrant's choice as an enforcement method. Note that FDA Multiresidue Methods A and D provide adequate recovery.

Table 1. Recovery of mevinphos from lettuce metabolism study samples and fortified samples using the proposed GC/FPD method and FDA MRM, Protocol D.

Sample	Residues of Mevinphos (ppm)					
	GC/FPD Method		FDA MRM, Protocol D		^{14}C-HPLC, Metabolism Study [a]	
	α-isomer	β-isomer	α-isomer	β-isomer	α-isomer	β-isomer
^{14}C-treated lettuce	0.51, 0.46, 0.44 (0.47) [b]	0.66, 0.55, 0.58 (0.60)	0.21, 0.21, 0.25 (0.22)	0.30, 0.30, 0.35 (0.32)	0.40	0.62
Controls Fortified with α- and β-mevinphos each at 0.1 ppm	0.044, 0.042, 0.040 (0.042)	0.049, 0.043, 0.044 (0.045)	0.076, 0.066, 0.071 (0.071)	0.072, 0.064, 0.068 (0.068)	--	--

[a] Results from the lettuce metabolism study.
[b] Values in parentheses are the average of the triplicate analyses.

In conjunction with the magnitude of the residue field studies on Brassica vegetables, cucurbit vegetables, leafy vegetables, grapes, succulent peas, and strawberries (MRIDs 44595201 through 44595221, 44608501, and 44608502), AMVAC submitted descriptions of a GC/FPD (phosphorus mode) method that is the same method described above that has been proposed for tolerance enforcement. The limits of detection (LOD) for α- and β-mevinphos were reported to be 0.007 and 0.003 ppm, respectively, for a combined LOD of 0.01 ppm. The reported LOQs for α- and β-mevinphos were 0.015 and 0.006 ppm, respectively, for each commodity, for a combined LOQ of 0.021 ppm. However, method validation data were only provided for fortifications down to 0.05 ppm, with the exception of strawberry. All sample analyses were performed by ABC Laboratories, Columbia, MO.

The registrant provided separate method validation data for broccoli, grapes, and strawberry. Control samples were fortified with mevinphos (α and β-isomers combined) at 0.05-0.5 ppm for broccoli, 0.05-1.0 ppm for grapes, and 0.025-1.1 ppm for strawberries. Control samples of each matrix were analyzed along with the fortified samples. Apparent residues of mevinphos were <LOD in control samples of each matrix. The average method recovery was 94% for broccoli, 74% for grapes, and 90% for strawberries (Table 2).

Table 2. Method validation recoveries of mevinphos (α- and β-isomers) from fortified control samples of broccoli, grapes and strawberry using a GC/FPD (phosphorus mode) method.

Crop MRID(s)	Matrix	Fortification level (ppm)	Number of samples [a]	% Recovery	
				Range [a]	Average ±SD
Broccoli 44608501	flower and stem	0.05-0.5	5	84-104	94 ± 9
Grapes 44595219	fruit	0.05-1.0	4	69-81(2)	74 ± 6
Strawberry 44595216	fruit	0.025-1.1	4	69-104 (1)	90 ± 15

[a] Values in parentheses represent the number of samples with recoveries outside of the 70-120% range.

In addition, concurrent method recovery data were submitted for Brassica vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, peas, grapes, and strawberries in conjunction with the analysis of residue samples. Control samples were fortified with mevinphos (α and β-isomers combined) at 0.05-25.0 ppm. Control samples of each matrix were analyzed along with the fortified samples. With the exception of two control samples of broccoli from one of the mexican studies, apparent residues of mevinphos were <LOD in control samples of each matrix. For the two broccoli samples, total mevinphos residues were 0.014 and 0.21 ppm and appeared to result from contamination, although no explanation was provided. The reported method LOQ for total mevinphos (α- + β-isomers) is 0.02 ppm for each matrix. However, the method validation data have only been provided for fortifications down to 0.05 ppm. Overall concurrent recoveries for all matrices were 69-119% and averaged 91-101% (Table 3). Adequate sample calculations and example chromatograms were submitted. The GC/FPD (phosphorus mode) method is adequate for determining residues of mevinphos in/on plant commodities.

Table 3. Concurrent recoveries of mevinphos (α- and β-isomers) from fortified control samples of various plant matrices using a GC/FPD (phosphorus mode) method.

Crop MRID(s)	Matrix	Fortification level (ppm)	Number of samples	% Recovery	
				Range [a]	Average ±SD
Broccoli 44595201, 44608501	flower and stem	0.05-5.0	12	85-108	96 ± 7
Cabbage 44595202, 44595218	leaves	0.05-1.5	13	92-105	95 ± 3
Cantaloupe 44595220	fruit	0.05-1.0	4	90-110	101 ± 8
Celery 44595203, 44595214	petioles trimmed and untrimmed	0.05-5.0	14	69-106 (1)	97 ± 10
Cucumber 44595213	fruit	0.05-1.0	7	86-102	94 ± 6
Grapes 44595212, 44595219	fruit	0.05-1.0	20	72-114	93 ± 10
Lettuce (leaf) 44595204, 44595221	leaves	0.05-20.0	35	76-119	99 ± 10
Lettuce (head) 44608502	leaves	0.05-2.5	42	85-116	98 ±7
Melon 44595205	fruit	0.1-1.0	2	91, 95	93 ± 3
Pea, succulent 44595206, 44595215	pods w/ seeds	0.05-2.5	10	76-106	96 ± 10
	vine	0.05-2.5	7	90-111	98 ± 8
	hay	0.05-2.5	6	88-106	99 ± 8
Pepper 44595210	fruit	0.05-1.0	6	92-105	97 ± 4
Spinach 44595207, 44595217	leaves	0.05-25.0	13	90-108	99 ± 5
Squash 44595209	fruit	0.1-1.0	2	91, 105	98 ± 10
Strawberry 44595208, 44595216	fruit	0.05-1.5	23	82-110	96 ± 6
Tomato 44595211	fruit	0.05-1.0	6	78-98	91 ± 7

[a] Values in parentheses represent the number of samples with recoveries outside of the 70-120% range.

Storage Stability Data

In conjunction with two of the residue studies (MRIDs 44595218 and 44595221), AMVAC submitted data on the stability of mevinphos residues in lettuce and cabbage. Control samples of lettuce and cabbage were fortified with mevinphos at 0.1 ppm and held in frozen storage (-20 C) at the analytical laboratory. Samples of cabbage were analyzed after 0, 14, and 63 days of storage and lettuce samples were analyzed after 14 and 28 days of storage. All samples were analyzed using the adequate GC/FPD method described in the above Methods section. Although residues appeared to decline slightly (14-17%) during the initial 2 weeks of storage, the data indicate that mevinphos residues are stable at -20 C for up to 63 days in leafy vegetables, including Brassica (Table 4).

Table 4. Frozen storage stability of mevinphos residues in leaf lettuce and cabbage stored at -20 C.

Crop/ MRID	Fortification Level (ppm)	Storage Intervals (days)	Percent Recovery		
			Fresh	Stored	Corrected [a]
Cabbage 44595218	0.10	0	99, 96	92, 97	97
		14	97, 100	83, 82	84
		63	97, 110	88, 81	82
Lettuce 44595221	0.10	0	95, 92	89, 94	98
		14	95, 96	77, 78	81
		28	90, 91	75, 78	85

[a] Average recovery of stored samples corrected for average concurrent recovery.

In addition, the Residue Chemistry Chapter of the Mevinphos Registration Standard (11/87) cited storage stability data indicating that residues of mevinphos are stable at -20 C in broccoli for up to 146 days and at 5 C for up to 43 days in cauliflower, 32 days in beet tops, 21 days in tomatoes, and 50 days in citrus fruits.

In the current residue studies, the maximum frozen storage intervals for the composite samples of each commodity were as follows: leaf lettuce, 67 days; head lettuce, 45 days; spinach, 166 days; celery, 64 days; broccoli, 154 days; cabbage, 68 days; pea pods, 137 days; pea vines and hay, 34 days; tomatoes, 57 days; peppers, 129 days; cucumbers, 183 days; squash, 49 days; melons, 91 days; grapes, 45 days; and strawberries, 148 days. Details of sample handling for each commodity are presented under the discussion of the field trial data.

As samples of grapes, squash, and pea vines and hay were analyzed within ~1 month of collection, storage stability data are not required for these studies. In addition, the available storage stability data adequately support the residue data on lettuce (leaf and head), spinach, celery, broccoli, and

cabbage. However, additional storage stability data are required to support the residue data on pea pods, tomatoes, peppers, cucumbers, melons, and strawberries.

Data are required depicting the storage stability of mevinphos residues in frozen (<0 C) succulent pea pods and peppers for up to 4 months, strawberries for up to 5 months, and cucumbers for up to 6 months.

Magnitude of the Residue in Plants

To support import tolerances for mevinphos residue in/on selected fruits and vegetables, AMVAC proposed using residue data from existing U.S. field studies conducted in 1993-1994, new Mexican field studies (1997), and Mexican monitoring data generated by Green Giant Co. (Irapuato, Mexico). HED deemed this approach acceptable (DP Barcodes D223005 and D227401, G. Kramer, 7/17/96) provided that (i) the maximum use rates and minimum PHIs used in the U.S. and Mexican field studies and at the farms participating in Green Giant's Mexican monitoring program corresponded to those specified on the Mexican mevinphos labels; (ii) Green Giant's QC protocols do not differ substantially from GLP standards; (iv) monitoring data were available from several years; and (iv) adequate processing studies are available for grapes and tomatoes. The uses being supported in Mexico include applications to the following crops: broccoli, cabbage, celery, cucumbers, grapes, lettuce (head and leaf), melons, peppers, peas (succulent, pods), spinach, squash (summer), strawberries, and tomatoes.

In its current submissions, AMVAC has provided residue data from field trials conducted in the U.S. on broccoli, cabbage, celery, grapes, lettuce (leaf and head), melons (cantaloupes), peas (succulent), spinach, and strawberries, and data from field trials conducted in Mexico on broccoli, cabbage, celery, cucumbers, grapes, leaf lettuce, musk melons, peas (succulent), peppers, spinach, strawberries, and tomatoes. These submissions did not include any residue monitoring data from Green Giant Co. of Mexico.

As indicated above, under the Use Directions Section, example labels for mevinphos EPs registered for use in Mexico were not provided in any of these submissions. HED will assume that the application rates and PHIs used in the Mexican field trials represent the maximum rate being supported for application in Mexico; however, all conclusions regarding the adequacy of the available residue data are tentative until the requested labels have been reviewed.

HED also notes that the submitted U.S. field trial data are of limited usefulness, as nearly all the U.S. studies were conducted at twice the rate of the Mexican studies. In addition, the U.S. studies that were conducted either a 1x or 2x rate resulted in mevinphos residues significantly higher than in the corresponding Mexican studies.

The available data from the Mexican studies also suggest that the established tolerances are too high.

Given the limited number of Mexican studies available for most commodities, the lack of any Mexican monitoring data, and the limited usefulness of the U.S. residue data, HED has determined that additional residue data are required in order to adequately reassess mevinphos tolerances on imported commodities.

To determine the number of additional field trials required in Mexico to support import tolerances for mevinphos, HED has used the Agency's Import Tolerance Guidelines with some modifications. Instead of averaging 5 years of data on U.S. crop production and imports of crops from Mexico, only 2 years (1995 and 1996) worth of data were used as the enactment of NAFTA resulted in substantial increases in the levels of agricultural commodities being imported from Mexico after 1994. Also, the percent of each commodity available in the U.S. that was imported from Mexico was determined only for fresh produce. These data are attached as Appendix I.

Leafy Vegetables (except *Brassica*) Group

Tolerances for residues of mevinphos have been established at 0.5 ppm in/on lettuce and 1.0 ppm in/on celery, parsley, and spinach [40 CFR §180.157].

Lettuce (leaf). AMVAC submitted residue data (MRID 44608521) from 24 tests conducted during 1994 at three sites in CA (8 tests/site) depicting residues of mevinphos in/on leaf lettuce following a single broadcast foliar application of mevinphos at either a low rate (1x; 0.36 or 0.44 lb ai/A) or high rate (2x; 0.71 or 0.87 lb ai/A), using four different mevinphos formulations (3.5 lb/gal SC/L, 2.9 lb/gal SC/L, 3.6 lb/gal EC, or 2.9 lb/gal EC). Applications were made with ground equipment using 25 or 41 gal/A.

At each test site, a single control sample of leaf lettuce was harvested prior to treatment. At one of the test sites (Watsonville, CA), duplicate treated samples were collected 0, 1, 3, 5 and 7 days following the low rate application, and at 0, 1, 3, 5, 7 and 10 days following the high rate application. At the other two test sites, duplicate treated samples of leaf lettuce were harvested at 7 and 10 days following the low and high rate applications, respectively. To examine variation in residue levels within a field, 12 individual plant samples were also harvested 10 days following the high rate applications at one of the test sites, and these samples were analyzed individually.

Samples were placed on ice, frozen within 3.5 hours of collection, and shipped to the analytical laboratory (ABC) within 5 days by overnight courier on dry ice. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, the composite lettuce samples from each test site were stored frozen for a total of 6-22

days. The individual plant samples used to measure within-field variation were stored frozen for a total of 148-154 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on leaf lettuce is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 3 control samples of leaf lettuce. Adequate sample calculations, raw data and representative chromatograms were provided.

Total mevinphos residues in/on leaf lettuce were <0.032-<0.291 ppm in/on 24 composited samples harvested 7 days following a low rate (0.36-0.44 lb ai/A) foliar application and <0.013-≤0.47 ppm in/on 24 composited samples harvested 10 days following a high rate (0.71-0.87 lb ai/A) foliar application (Table 5). In the residue decline studies, total mevinphos residues were 1.45-4.23 ppm in/on leaf lettuce immediately (0-day) following the low rate foliar application and declined steadily to <0.09-<0.29 ppm by 7 days post-treatment. Following the high rate application, total mevinphos residues were 3.66-7.44 ppm on day 0 and declined to <0.06-<0.26 ppm by 10 days post-treatment.

For the individual plant samples harvested 10 days following a high rate application (Table 6), total residues of mevinphos were <0.20-<0.86 ppm in/on 12 plant samples treated with the 3.5 lb/gal SC/L, <0.13-<0.46 ppm in/on 12 plant samples treated with the 3.6 lb/gal EC, <0.09-<0.18 ppm in/on 12 plant samples treated with the 2.9 lb/gal SC/L, <0.04-<0.19 ppm in/on 12 plant samples treated with the 2.9 lb/gal EC.

Table 5. Residues of mevinphos in/on leaf lettuce harvested following a single broadcast foliar application of mevinphos (EC and SC/L) at ~0.4 or ~0.8 lb ai/A (1x or 2x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Watsonville, CA	3.5 lb/gal SC/L	0.44	0	1.672, 1.998	1.864, 2.268	3.536, 4.226
			1	0.677, 0.693	1.2275, 1.250	1.952, 1.943
			3	0.081, 0.079	0.775, 0.837	0.856, 0.916
			5	0.024, <0.015	0.462, 0.335	0.486, 0<.350
			7	<0.007, <0.007	0.265, 0.251	<0.272, <0.258
	3.6 lb/gal EC	0.44	0	1.542, 1.196	1.620, 1.381	3.162, 2.577
			1	0.563, 0.615	1.074, 1.147	1.637, 1.762
			3	0.047, 0.053	0.681, 0.665	0.728, 0.718

(*continued; footnotes follow*)

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
			5	<0.015, <0.015	0.492, 0.580	<0.507, <0.595
			7	<0.007, <0.007	0.284, 0.255	<0.291, <0.262
	2.9 lb/gal SC/L	0.36	0	0.984, 1.539	0.467, 0.648	1.451, 2.187
			1	0.424, 0.439	0.371, 0.359	0.795, 0.798
			3	0.057, 0.054	0.281, 0.264	0.338, 0.318
			5	<0.007, <0.007	0.140, 0.156	<0.147, <0.163
			7	<0.007, <0.007	0.078, 0.086	<0.085, <0.093
	2.9 lb/gal EC	0.36	0	1.520, 1.692	0.609, 0.672	2.129, 2.364
			1	0.461, 0.473	0.366, 0.365	0.827, 0.838
			3	0.031, 0.058	0.260, 0.300	0.291, 0.358
			5	<0.015, <0.015	0.156, 0.175	<0.171, <0.190
			7	<0.007, <0.007	0.093, 0.085	<0.100, <0.092
	3.5 lb/gal SC/L	0.87	0	3.706, 3.725	3.737, 3.578	7.443, 7.303
			1	1.780, 1.824	2.600, 2.568	4.380, 4.392
			3	0.324, 0.439	1.478, 1.752	1.802, 2.191
			5	0.038, 0.047	1.161, 0.921	1.199, 0.968
			7	<0.007, <0.007	0.558, 0.564	<0.565, <0.571
			10	<0.007, <0.007	0.185, 0.251	<0.192, <0.258
Watsonville, CA *(contd.)*	3.6 lb/gal EC	0.87	0	3.626, 3.475	3.344, 3.113	6.970, 6.588
			1	1.798, 1.492	2.398, 2.018	4.196, 3.510
			3	0.280, 0.229	1.458, 1.401	1.738, 1.630
			5	0.044, 0.040	0.926, 1.028	0.970, 1.068
			7	<0.007, <0.007	0.629, 0.555	<0.636, <0.562
			10	<0.007, <0.007	0.171, 0.127	<0.178, <0.134
	2.9 lb/gal SC/L	0.71	0	3.025, 2.592	1.132, 1.071	4.157, 3.663
			1	1.353, 1.204	0.796, 0.713	2.149, 1.917
			3	0.213, 0.210	0.529, 0.508	0.742, 0.718
			5	0.018, 0.020	0.288, 0.327	0.306, 0.347
			7	<0.007, <0.007	0.167, 0.198	<0.174, <0.205

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
			10	<0.007, <0.007	0.051, 0.068	<0.058, <0.075
	2.9 lb/gal EC	0.71	0	2.771, 3.190	1.080, 1.181	3.851, 4.371
			1	1.087, 0.992	0.714, 0.682	1.801, 1.674
			3	0.149, 0.172	0.338, 0.407	0.487, 0.579
			5	0.022, 0.018	0.340, 0.287	0.362, 0.305
			7	<0.007, <0.007	0.152, 0.148	<0.159, <0.155
			10	<0.007, <0.007	0.055, 0.061	<0.062, <0.068
Porterville, CA	3.5 lb/gal SC/L	0.44	7	<0.007, <0.007	0.084, 0.098	<0.091, <0.105
	3.6 lb/gal EC			<0.007, <0.007	0.088, 0.094	<0.095,<0.101
	2.9 lb/gal SC/L	0.36	7	<0.007, <0.007	0.018, 0.018	<0.025, <0.025
	2.9 lb/gal EC			<0.007, <0.007	0.039, 0.025	<0.046,<0.032
	3.5 lb/gal SC/L	0.87	10	<0.007, <0.007	0.025, 0.040	<0.032, <0.047
	3.6 lb/gal EC			<0.007, <0.007	0.043, 0.056	<0.050, <0.063
	2.9 lb/gal SC/L	0.71	10	<0.007, <0.007	0.016, 0.010	<0.023, <0.017
	2.9 lb/gal EC			<0.007, <0.007	0.016, <0.006	<0.023, <0.013
Fresno, CA	3.5 lb/gal SC/L	0.44	7	<0.007, <0.007	0.182, 0.179	<0.189, <0.186
	3.6 lb/gal EC			<0.007, <0.007	0.143, 0.158	<0.150, <0.165
	2.9 lb/gal SC/L	0.36	7	<0.015, <0.007	0.110, 0.073	<0.125, <0.080
	2.9 lb/gal EC			<0.007, <0.007	0.044, 0.046	<0.051, <0.053
	3.5 lb/gal SC/L	0.87	10	<0.007, <0.007	0.420, 0.433	<0.427, <0.440
	3.6 lb/gal EC			<0.007, <0.007	0.352, 0.465	<0.359, <0.473
	2.9 lb/gal SC/L	0.71	10	<0.007, <0.007	0.152, 0.185	<0.159, <0.192
	2.9 lb/gal EC			<0.007, <0.007	0.101, 0.097	<0.108, <0.104

[a] Four different formulations were used at each site; Phosdrin IPA4 (3.5 lb/gal SC/L), Phosdrin 4 EC (3.6 lb/gal EC), Hi-Alpha Phosdrin IPA (2.9 lb/gal SC/L), and Hi Alpha Phosdrin EC (2.9 lb/gal EC).
[b] Low and high rates were equivalent to 1 or 2 pints formulated product per acre.
[c] PTI = post-treatment interval.
[d] Each value represents the analysis of a single sample.

Table 6. Residues of mevinphos in/on 12 separate plant samples of leaf lettuce from each test plot harvested 10 days following a single broadcast foliar application of mevinphos (EC or SC/L) at ~0.8 lb ai/A (2x).

Formulation	Rate (lb ai/A)	Mevinphos Residues (ppm) [a]		
		α-isomer	β-isomer	Total
3.5 lb/gal SC/L	0.87	<0.007, <0.007, <0.007, <0.007, < 0.007,<0.007, <0.007, <0.007, <0.007, <0.007, <0.015, <0.007, <0.015	0.342, 0.247, 0.357, 0.352, 0.489, 0.264, 0.195, 0.333, 0.256, 0.656, 0.563, 0.845	<0.349 <0.254 <0.364, <0.359, <0.496, <0.271, <0.202, <0.340, <0.263, <0.671, <0.570, <0.860
3.6 lb/gal EC	0.87	<0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007	0.230, 0.144, 0.199, 0.366, 0.214, 0.153, 0.164, 0.127, 0.130, 0.225, 0.202, 0.457	<0.237, <0.151, <0.206, <0.373, <0.221, <0.160, <0.171, <0.134, <0.137, <0.232,< 0.209, <0.464
2.9 lb/gal SC/L	0.71	<0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007	0.136, 0.081, 0.078, 0.099, 0.098, 0.118, 0.128, 0.095, 0.169, 0.082, 0.085, 0.099	<0.143, <0.088, <0.085, <0.106, <0.105, <0.125, <0.135, <0.102, <0.176, <0.089, <0.092, <0.106
2.9 lb/gal EC	0.71	<0.015, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007, <0.007	0.171, 0.043, 0.119, 0.100, 0.066, 0.078, 0.032, 0.057, 0.062, 0.084, 0.080, 0.030	<0.186, <0.050, <0.126, <0.107, <0.073, <0.085, <0.039, <0.064, <0.069, <0.091, <0.087, <0.037

[a] Each value represents the analysis of a single plant sample.

AMVAC also submitted data (MRID 44595204) from an additional test on leaf lettuce conducted in Michoacan, Mexico during 1997, in which mevinphos (10.3 lb/gal SC/L) was applied to three separate plots of leaf lettuce at 0.39 lb ai/A (440 g ai/ha; 1x maximum rate) using ground equipment at 24 gal/A (224 L/ha).

At 10 days post-treatment, triplicate samples of leaf lettuce were harvested from the control plot and each of the 3 treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 16 days of frozen

storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; the third replicate was retained at the field site. Samples arrived at the analytical laboratory within 2 days in a frozen state and were stored at <-20 C at the analytical laboratory for 19 days. Prior to extraction for analysis, samples were stored frozen for a total of 67 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on leaf lettuce is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on one control sample. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.031 ppm in/on 6 samples of leaf lettuce harvested 10 days following a single foliar application of mevinphos (SC/L) at 0.39 lb ai/A (440 g ai/ha; Table 7).

Table 7. Residues of mevinphos in/on leaf lettuce harvested 10 days following a single broadcast foliar application of mevinphos (SC/L) at 0.39 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.39	10	<0.010, <0.010	0.014, 0.021	<0.024, <0.031
				<0.010, <0.010	<0.010, 0.017	<0.020, <0.027
				<0.010, <0.010	0.011, 0.013	<0.021,<0.023

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.

The submitted residue data on leaf lettuce are not adequate. An insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI were conducted. Only a single Mexican test on leaf lettuce was conducted at 1x with a 10-day PHI. A total of 24 tests were conducted in the U.S. on leaf lettuce; however, 12 of these tests were conducted at 2x and the 12 tests conducted at 1x had a PHI of 7 days. In addition, mevinphos residues in/on leaf lettuce in the U.S. studies conducted at 1x (<0.025-0.291 ppm) and 2x (<0.013-0.473 ppm) were substantially higher than mevinphos residues found in/on lettuce in the single Mexican study (<0.031 ppm) conducted at 1x.

Based upon the data from the Mexican study, the established 0.5 ppm tolerance for residues of mevinphos in/on lettuce is too high and will be reassessed once additional data for residues in/on leaf lettuce become available.

Based upon the relative amount of leaf lettuce imported from Mexico into the U.S., Appendix I), an additional two field trials should be conducted in Mexico on leaf lettuce to support an import tolerance for mevinphos residues in/on lettuce.

Lettuce (head). AMVAC submitted residue data (MRID 44608502) from 16 tests conducted during 1994 at two sites in CA depicting residues of mevinphos in/on head lettuce following a single broadcast foliar application of mevinphos at either a low rate (0.36 or 0.44 lb ai/A; 1x) or high rate (0.71 or 0.87 lb ai/A; 2x), using four different mevinphos formulations (3.5 lb/gal SC/L, 2.9 lb/gal SC/L, 3.6 lb/gal EC, or 2.9 lb/gal EC). Applications were made with ground equipment using 25 or 40 gal/A.

At each of the test sites, a single control sample of untrimmed head lettuce (RAC) and trimmed lettuce were collected prior to treatment. At one of the test sites (Watsonville, CA), duplicate treated samples were collected 0, 1, 3, 5 and 7 days following the low rate application, and at 0, 1, 2, 4, 7 and 10 days following the high rate application. At the other test site, duplicate composite treated samples of untrimmed lettuce were harvested at 3 and 4 days following the low and high rate applications, respectively. At both sites, duplicate treated samples of trimmed lettuce were also harvested 3 and 4 days following the low and high rate applications, respectively. To examine variation in residue levels within a field, 12 individual plant samples were also harvested 4 days following the high rate applications at one of the test sites, and these samples were analyzed individually.

Samples were placed on ice, frozen within 3.5 hours of collection, and shipped within 4 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, lettuce samples were stored frozen for a total of 7-45 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on head lettuce is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 2 control samples Adequate sample calculations, raw data and representative chromatograms were provided.

Total mevinphos residues in/on untrimmed head lettuce were <0.04-<0.31 ppm in/on 16 samples harvested 3 days following a 1x foliar application and 0.09-$\leq$0.42 ppm in/on 16 samples harvested 4 days following a 2x foliar application (Table 8). In the residue decline studies, total mevinphos residues were 0.29-1.11 ppm in/on untrimmed lettuce immediately (0-day) following the 1x foliar application and declined steadily to <0.13

ppm by 7 days post-treatment. Following the 2x application, total mevinphos residues were 0.44-1.68 ppm on day 0 and declined to <0.14 ppm by 10 days post-treatment.

Total residues of mevinphos in/on trimmed samples of head lettuce were <0.03 ppm in/on 16 samples harvested 3 days following the 1x rate application. For the 2x rate application, total mevinphos residues were <0.05 ppm in/on the 16 composite samples of trimmed head lettuce harvested 4 days post-treatment and were <0.01-0.26 ppm in/on 48 individual plants of trimmed head lettuce harvested 4 days post-treatment. (Table 9).

The submitted residue data on head lettuce are not adequate for assessing an import tolerance for lettuce. No studies were conducted in Mexico on head lettuce; however, a total of 16 trials were conducted in the U.S., 8 trials at 1x with a 3-day PHI and 8 trials at 2x with a 4-day PHI. Although 8 of the U.S. studies were at the 1x rate, the residue data generated in Mexico on all commodities, except melons, suggest that mevinphos residues in Mexico may be substantially lower than the existing tolerance (0.5 ppm). Based upon the relative amount of lettuce imported from Mexico into the U.S., a total of three field trials should be conducted on head lettuce to support an import tolerance for mevinphos residues in/on lettuce.

Table 8. Residues of mevinphos in/on trimmed and untrimmed head lettuce harvested following a single broadcast foliar application of mevinphos (EC and SC/L) at ~0.4 or ~0.8 lb ai/A (1x or 2x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Untrimmed Lettuce (RAC)						
Watsonville, CA	3.5 lb/gal SC/L	0.44	0	0.52, 0.42	0.58, 0.50	1.11, 0.92
			1	0.11, 0.09	0.31, 0.28	0.42, 0.37
			3	<0.015, <0.015	0.24, 0.29	<0.26, <0.31
			5	<0.007, <0.007	0.19, 0.11	<0.19, <0.12
			7	<0.007, <0.007	0.11, 0.09	<0.12, <0.10
	3.6 lb/gal EC	0.44	0	0.40, 0.37	0.43, 0.37	0.83, 0.75
			1	0.11, 0.06 [e]	0.27, 0.19 [e]	0.38, 0.25
			3	<0.007, <0.007	0.22, 0.08	<0.23, <0.09
			5	<0.007, <0.007	0.16, 0.14	<0.17, <0.15
			7	<0.007, <0.007	0.12, 0.11	<0.13, <0.11
	2.9 lb/gal SC/L	0.36	0	0.26, 0.20	0.11, 0.09	0.37, 0.29
			1	0.07, 0.09	0.09, 0.09	0.16, 0.18
			3	<0.015, <0.007	0.07, 0.05	<0.08, <0.06
			5	<0.007, <0.007	0.04, 0.04	<0.05, <0.05
			7	<0.007, <0.007	0.02, 0.03	<0.03, <0.04
	2.9 lb/gal EC	0.36	0	0.36, 0.30	0.17, 0.14	0.52, 0.44
			1	0.03, 0.04	0.05, 0.06	0.08, 0.10
			3	<0.007, 0.04	0.05, 0.13	<0.06, 0.16
			5	<0.007, <0.007	0.05, 0.04	<0.05, <0.05
			7	<0.007, <0.007	0.02, 0.02	<0.03, <0.03
	3.5 lb/gal SC/L	0.87	0	0.45, 0.34	0.67, 0.57	1.12, 0.92
			1	0.16, 0.09	0.75, 0.46	0.91, 0.55
			2	0.06, 0.04	0.44, 0.40	0.50, 0.45
			4	<0.007, <0.007	0.41, 0.38	<0.42, <0.39
			7	<0.007, <0.007	0.20, 0.27	<0.20, <0.27
			10	<0.007, <0.007	0.10, 0.09	<0.11, <0.10
	3.6 lb/gal EC	0.87	0	0.81, 0.39	0.87, 0.58	1.68, 0.96
			1	0.12, 0.21	0.35, 0.56	0.47, 0.77
			2	0.04, 0.05	0.48, 0.50	0.52, 0.55
			4	<0.007, <0.007	0.36, 0.37	<0.37, <0.37
			7	<0.007, <0.007	0.24, 0.17	<0.25, <0.17
			10	<0.007, <0.007	0.13, 0.13	<0.14, <0.13
	2.9 lb/gal SC/L	0.71	0	0.24, 0.25	0.20, 0.23	0.44, 0.48
			1	0.15, 0.06	0.20, 0.14	0.35, 0.19

(*continued; footnotes follow*)

Table 8. Continued

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
			2	0.07, 0.08	0.26, 0.20	0.33, 0.28
			4	<0.007, <0.007	0.13, 0.13	<0.14, <0.13
			7	<0.007, <0.007	0.03, 0.04	<0.04, <0.05
			10	<0.007, <0.007	0.02, 0.03	<0.03, <0.04
Watsonville, CA *(contd.)*	2.9 lb/gal EC	0.71	0	0.28, 0.32	0.21, 0.23	0.49, 0.55
			1	0.11, 0.16	0.16, 0.19	0.27, 0.35
			2	<0.015, 0.04	0.05, 0.14	<0.06, 0.17
			4	<0.015, <0.015	0.12, 0.12	<0.13, <0.14
			7	<0.007, <0.007	0.02, 0.04	<0.03, <0.04
			10	<0.007, <0.007	0.01, 0.02	<0.02, <0.03
Porterville, CA	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	0.12, 0.10	<0.13, <0.11
	3.6 lb/gal EC			<0.007, <0.007	0.08, 0.13	<0.08, <0.14
	2.9 lb/gal SC/L	0.36	3	<0.007, <0.007	0.03, 0.05	<0.04, <0.05
	2.9 lb/gal EC			<0.015, <0.015	0.07, 0.06	<0.08, <0.07
	3.5 lb/gal SC/L	0.87	4	0.01, 0.02	0.14, 0.24	0.15, 0.26
	3.6 lb/gal EC			0.02, 0.02	0.23, 0.31	0.25, 0.33
	2.9 lb/gal SC/L	0.71	4	0.06, 0.03	0.12, 0.06	0.19, 0.09
	2.9 lb/gal EC			0.02, 0.01	0.11, 0.09	0.12, 0.10
Trimmed Lettuce						
Watsonville, CA	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	3.6 lb/gal EC			<0.007, <0.007	<0.006, <0.003	<0.01, <0.01
	2.9 lb/gal SC/L	0.36	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	2.9 lb/gal EC			<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	3.5 lb/gal SC/L	0.87	4	<0.007, <0.007	0.02, 0.03	<0.03, <0.04
	3.6 lb/gal EC			<0.007, <0,007	0.05, 0.01	<0.05, <0.02
	2.9 lb/gal SC/L	0.71	4	<0.007, <0.007	0.01, 0.01	<0.02, <0.02
	2.9 lb/gal EC			<0.007, <0,007	0.007, 0.007	<0.02, <0.02
Porterville, CA	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	<0.006, 0.01	<0.01, <0.02
	3.6 lb/gal EC			<0.007, <0.007	<0.006, <0.003	<0.01, <0.01
	2.9 lb/gal SC/L	0.36	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	2.9 lb/gal EC			<0.015, <0.007	0.012, 0.012	<0.03, <0.02
	3.5 lb/gal SC/L	0.87	4	<0.015, <0.007	0.04, 0.03	<0.05, <0.03
	3.6 lb/gal EC			<0.007, <0.007	0.02, 0.01	<0.03, <0.02
	2.9 lb/gal SC/L	0.71	4	<0.015, 0.015	0.02, 0.03	<0.02, <0.03
	2.9 lb/gal EC			<0.007, <0.007	0.02, 0.03	<0.03, <0.03

[a] Four different formulations were used at each site; Phosdrin IPA4 (3.5 lb/gal SC/L), Phosdrin 4 EC (3.6 lb/gal EC), Hi-Alpha Phosdrin IPA (2.9 lb/gal SC/L), and Hi Alpha Phosdrin EC (2.9 lb/gal EC).

[b] Low and high rates were equivalent to 1 or 2 pints formulated product per acre.

(*continued; footnotes follow*)

[c] PTI = post-treatment interval.
[d] Each value represents the analysis of a single sample unless otherwise indicated.
[e] Values are the average of duplicate analyses.

Table 9. Residues of mevinphos in/on 12 separate samples of trimmed head lettuce from each test plot harvested 4 days following a single broadcast foliar application of mevinphos (EC or SC/L) at ~0.8 lb ai/A (2x).

Formulation	Rate (lb ai/A)	Mevinphos Residues (ppm) [a]		
		α-isomer	β-isomer	Total
3.5 lb/gal SC/L	0.87	<0.015, <0.007, <0.007, <0.007, < 0.007, <0.015, <0.007, <0.007, <0.007, <0.007, 0.042, <0.007	0.020, 0.015, 0.011, 0.006, <0.006, 0.064, 0.014, 0.079, 0.017, 0.015, 0.219, 0.011	<0.035, <0.022, <0.018, <0.013, <0.013, <0.079, <0.021, <0.086, <0.024, <0.022, 0.261, <0.018
3.6 lb/gal EC	0.87	<0.015, <0.007, <0.015, <0.007, < 0.007, 0.019, <0.015, <0.015, <0.015, 0.015, <0.007, <0.007	0.026, 0.013, 0.019, 0.024, 0.011, 0.045, 0.029, 0.025, 0.113, 0.162, 0.011, 0.018	<0.041, <0.020, <0.034, <0.031, <0.011, 0.064, <0.044, <0.040, <0.128, 0.177, <0.018, <0.025
2.9 lb/gal SC/L	0.71	<0.007, 0.017, <0.007, 0.015, 0.017, <0.007, 0.019, <0.015, <0.007, <0.015, 0.051, <0.007	0.006, 0.009, <0.006, 0.014, 0.011, <0.006, 0.013, 0.006, 0.007, 0.009, 0.032, <0.006	<0.013, 0.026, <0.013, 0.029, 0.028, <0.013, 0.032, <0.021, <0.014, <0.024, 0.083, <0.013
2.9 lb/gal EC	0.71	<0.007, <0.015, 0.021, <0.015, < 0.007, <0.015, <0.007, <0.007, <0.007, <0.015, <0.007, <0.007	<0.006, 0.009, 0.038, 0.011, 0.006, 0.020, 0.006, <0.006, <0.003, 0.009, 0.008, <0.006	<0.013, <0.024, 0.059, <0.026, <0.013, <0.035, <0.013, <0.013, <0.010, <0.024, <0.015, <0.013

[a] Each value represents the analysis of a single sample.

Spinach. AMVAC submitted residue data (MRID 44595217) from eight tests conducted during 1994 in CA(4) and TX(4) depicting residues of mevinphos in/on spinach following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at either 0.44 or 0.87 lb ai/A (1x or 2x). Applications were made using ground equipment at 20-50 gal/A.

A single control sample was harvested pretreatment from each test site and duplicate treated samples of spinach were harvested 4 and 7 days following the 0.44 and 0.87 lb ai/A applications, respectively, except at one of the CA sites. At one CA site, duplicate treated samples were collected 0, 1, 2, 4 and 7 days following the 0.44 lb ai/A application, and 0, 1, 3, 5, 7 and 10 days following the 0.87 lb ai/A application. Treated samples were frozen within one hour of collection and shipped within 5 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at ≤-20 C. Prior to extraction for analysis, spinach samples were stored frozen for a total of 3-22 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on spinach is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 4 control samples. Adequate sample calculations, raw data and representative chromatograms were provided.

Total mevinphos residues were <0.04-0.36 ppm in/on 8 spinach samples harvested 4 days following a 0.44 lb ai/A foliar application and <0.013-0.23 ppm in/on 8 spinach samples harvested 7 days following a 0.87 lb ai/A foliar application (Table 10). In the residue decline studies, total mevinphos residues were 7.5 ppm in/on spinach immediately (0-day) following a 0.44 lb ai/A foliar application and declined steadily to 0.11 ppm by 7 days post-treatment. Following the 0.87 lb ai/A application, total mevinphos residues averaged 16.5 ppm on day 0 and declined to <0.05 ppm by 10 day post-treatment.

Table 10. Residues of mevinphos in/on spinach harvested following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at 0.4 or 0.9 lb ai/A (1x or 2x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [c]		
	Formulation	Rate (lb ai/A) [a]		α-isomer	β-isomer	Total
Watsonville, CA	3.5 lb/gal SC/L	0.44	0	4.677, 4.496	2.802. 2.953	7.479, 7.449
			1	1.370, 1.498	1.344, 1.421	2.714, 2.919
			2	0.636, 0.625	0.744, 0.843	1.380, 1.468
			4	0.090, 0.124	0.165, 0.238	0.255, 0.362
			7	0.023, 0.020	0.087, 0.085	0.110, 0.105
		0.87	0	11.564, 9.307	6.684, 5.534	18.25, 14.84
			1	3.958, 3.938	3.105, 2.967	7.063, 6.905
			3	0.447, 0.574	0.659, 0.823	1.106, 1.397
			5	0.147, 0.182	0.295, 0.420	0.442, 0.602
			7	0.051, 0.043	0.180, 0.159	0.231, 0.202
			10	<0.014, <0.014	0.037, 0.034	<0.051, <0.048
Fallbrook, CA	3.5 lb/gal SC/L	0.44	4	0.155, 0.136	0.208, 0.204	0.363, 0.340
		0.87	7	0.044, 0.038	0.095, 0.087	0.139, 0.125
Uvalde, TX	3.5 lb/gal SC/L	0.44	4	<0.014, <0.007	0.027, 0.038	<0.041, <0.045
		0.87	7	<0.007, <0.007	<0.006, 0.007	<0.013, <0.014
Raymondville, TX	3.5 lb/gal SC/L	0.44	4	0.060, 0.052	0.110, 0.100	0.170, 0.152
		0.87	7	0.022, 0.034	0.059, 0.070	0.081, 0.104

[c] PTI = post-treatment interval.
[e] Each value represents the analysis of a single sample.

AMVAC also submitted data (MRID 44595207) from an additional spinach test conducted in Guanajuato, Mexico during 1997, in which mevinphos (SC/L) was applied to three separate plots of spinach at 0.39 lb ai/A (440 g ai/ha; 1x) using ground equipment at 23 gal/A (217 L/ha).

At 7 days post-treatment, triplicate samples of spinach were harvested from the control plot and each of the 3 treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 59 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 88 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days.

Samples were stored at <-20 C at the analytical laboratory for 38-78 days prior to analysis. Prior to extraction for analysis, the total frozen storage interval was 96 days for the first set of samples and 166 days for the second set of samples.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The reported LOQ for total mevinphos residues in/on spinach is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on 2 control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.023 ppm in/on 9 samples of spinach harvested 7 days following a single foliar application of mevinphos (SC/L) at 0.39 lb ai/A (440 g ai/ha; Table 11). Residues were essentially the same for spinach samples which arrived at the analytical laboratory either partially thawed or frozen.

Table 11. Residues of mevinphos in/on spinach harvested 7 days following a single broadcast foliar application of mevinphos (SC/L) at 0.39 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.39	7	<0.010, <0.010 [<0.010] [c]	<0.010, <0.010 [0.011]	<0.02, <0.02 [<0.021]
				<0.010, <0.010 [<0.010]	0.011, 0.011 [0.013]	<0.021, <0.021 [<0.023]
				<0.010, <0.010 [<0.010]	0.012, <0.010 [0.011]	<0.022, <0.020 [<0.021]

[a] PTI = post-treatment interval.

[b] Each value represents the analysis of a single composite sample.

[c] Bracketed values are from the analysis of back-up samples shipped after the initial samples arrival partially thawed at the analytical laboratory.

The submitted residue data on spinach are not adequate. An insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI were conducted. A single Mexican test on spinach was conducted at 1x with a 10-day PHI. A total of 8 tests were conducted in the U.S. on spinach; however, 4 of these tests were conducted at 2x and the 4 tests conducted at 1x had a PHI of 4 days. In addition, mevinphos residues in/on spinach in the U.S. studies conducted at 1x (<0.041-0.363 ppm) and 2x (<0.014-0.231 ppm) were substantially higher than mevinphos residues found in/on spinach in the single Mexican study ($\leq$0.023 ppm) conducted at 1x.

Based upon the available data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on spinach is too high and will be reassessed once additional data for residues in/on spinach become available.

Based upon the relative amount of spinach imported from Mexico into the U.S., an additional two field trials should be conducted in Mexico on spinach to support an import tolerance for mevinphos residues.

Celery. AMVAC submitted residue data (MRID 44595214) from four tests conducted during 1993-94 in CA(3) and FL(1) depicting residues of mevinphos in/on untrimmed and trimmed celery following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at 0.87 lb ai/A (2x). Applications were made using ground equipment at 20-59 gal/A.

Except at one of the CA sites, a single control sample and duplicate treated samples of untrimmed and trimmed celery were harvested 5 days post-treatment. At one of the CA sites, single trimmed and untrimmed control samples was harvested prior to treatment; and duplicate untrimmed and trimmed treated samples were collected 0, 1, 3, 5, 7 and 10 days post-treatment. In addition at another of the CA test sites, 12 individual plant samples of trimmed celery were also harvested 5 days post-treatment and were analyzed individually to examine within field variation in residue levels.

After harvest, samples were immediately placed on ice and were frozen within 4 hours of sampling. Samples were shipped to the analytical laboratory within 1-11 days either by overnight courier on dry ice or by freezer truck. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, celery samples were stored frozen for a total of 5-30 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on celery is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 4 control samples. Adequate sample calculations, raw data and representative chromatograms were provided.

By 5 days post-treatment, total mevinphos residues were 0.08-0.86 ppm in/on 8 composite samples of untrimmed celery and <0.01-0.06 ppm in/on 8 composite samples of trimmed celery (Table 12). Residues were also <0.01-0.06 ppm in/on the 12 individual plant samples of trimmed celery. In the residue decline studies, total mevinphos residues in/on untrimmed celery declined from 3.2-4.4 ppm on Day 0 to <0.03 ppm by Day 10; residues in/on trimmed celery declined from 0.32-0.45 ppm on Day 0 to <0.01 ppm by Day 10.

Table 12. Residues of mevinphos in/on untrimmed and trimmed celery harvested following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at ~0.9 lb ai/A (2x).

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Untrimmed Celery						
Watsonville, CA	3.5 lb/gal SC/L	0.87	0	2.086, 2.717	1.100, 1.663	3.186, 4.380
			1	0.878, 0.753	0.618, 0.530	1.496, 1.283
			3	0.146, 0.183	0.211, 0.255	0.357, 0.438
			5	0.061, 0.064	0.147, 0.157	0.208, 0.221
			7	<0.007, <0.015	0.042, 0.048	<0.049, <0.063
			10	<0.007, <0.007	0.019, 0.021	<0.026, <0.028
Porterville, CA	3.5 lb/gal SC/L	0.87	5	0.415, 0.273	0.385, 0.270	0.800, 0.543
Patterson, CA	3.5 lb/gal SC/L	0.87	5	0.413, 0.409	0.431, 0.454	0.844, 0.863
Lake Jem, FL	3.5 lb/gal SC/L	0.87	5	0.019, 0.017	0.061, 0.061	0.080, 0.078
Trimmed Celery						
Watsonville, CA	3.5 lb/gal SC/L	0.87	0	0.205, 0.275	0.112, 0.172	0.317, 0.447
			1	0.102, 0.127	0.080, 0.094	0.182, 0.221
			3	0.038, 0.059	0.055, 0.082	0.093, 0.141
			5	0.020, 0.015	0.043, 0.029	0.063, 0.044
			7	<0.007, <0.007	0.014, 0.018	<0.021, <0.025
			10	<0.007, <0.007	0.007, <0.003	<0.014, <0.010
Porterville, CA	3.5 lb/gal SC/L	0.87	5	<0.015, <0.015	0.015, 0.017	<0.030, <0.032
Patterson, CA [c]	3.5 lb/gal SC/L	0.87	5	<0.007, <0.015	0.013, 0.014	<0.020, <0.029
			5	<0.007, <0.015 0.022, <0.007 <0.007, 0.017 0.034, <0.007 <0.007, <0.007 <0.007, <0.007	0.006, 0.013, 0.020, 0.006, <0.006, 0.024, 0.030,<0.006, <0.006, <0.006, <0.006, <0.006	<0.013, <0.028, 0.042, <0.013, <0.013, 0.041, 0.064, <0.013, <0.013, <0.013, <0.013, <0.013
Lake Jem, FL	3.5 lb/gal	0.87	5	<0.007, <0.007	<0.006, 0.008	<0.013,

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composited sample, unless otherwise indicated.
[c] At the Patterson, CA test site, 2 composited treated samples of untrimmed and trimmed celery were collected 5 days post-treatment along with 12 samples of individual trimmed plants.

AMVAC also submitted data (MRID 44595203) from an additional celery test conducted in Guanajuato, Mexico during 1997, in which mevinphos (10.3 lb/gal SC/L) was applied to three separate plots of celery at 0.39 lb ai/A (440 g ai/ha; 1x) using ground equipment at 23 gal/A (214 L/ha).

At 5 days post-treatment, triplicate samples of untrimmed celery were harvested from the control plot and each of the 3 treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 25 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 47 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days. All samples were stored at <-20 C at the analytical laboratory for 15-35 days prior to analysis. All celery samples were stored frozen for a total of 64 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on celery is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on 2 control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.035-0.066 ppm in/on 9 samples of untrimmed celery harvested 5 days following a single foliar application of mevinphos (SC/L) at 0.39 lb ai/A (440 g ai/ha; Table 13). Residues were essentially the same for celery samples which arrived at the analytical laboratory either partially thawed or frozen.

The submitted celery residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI (5-days) were conducted. Only a single Mexican test on celery was conducted at 1x with a 5-day PHI. Although four additional studies were conducted in the U.S., each of these tests was conducted at 2x and mevinphos residues in/on celery from these studies (0.078-0.863 ppm) were substantially higher than mevinphos residues found in/on celery in the single Mexican study ($\leq$0.066 ppm) conducted at 1x.

Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on celery is too high and will be reassessed once additional data for residues in/on celery are available.

Based upon the relative amount of celery imported from Mexico into the U.S., an additional two field trials should be conducted in Mexico on celery at 1x to support an import tolerance for mevinphos residues.

Table 13. Residues of mevinphos in/on untrimmed celery harvested 5 days following a single broadcast foliar application of mevinphos (SC/L) at 0.39 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.39	5	0.015, 0.013 [0.020] [c]	0.037, 0.032 [0.046]	0.052, 0.045 [0.066]
				0.014, 0.015 [0.018]	0.029, 0.035 [0.044]	0.043, 0.050 [0.062]
				<0.01, 0.010 [0.012]	0.025, 0.028 [0.027]	<0.035, 0.038 [0.039]

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.
[c] Bracketed values are from the analysis of back-up samples shipped after the initial samples arrival partially thawed at the analytical laboratory.

Brassica Leafy Vegetables Group

Tolerances for residues of mevinphos have been established at 1.0 ppm in/on broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, and mustard greens [40 CFR §180.157].

Broccoli. AMVAC submitted residue data (MRID 44608501) from five tests conducted during 1993-94 in CA(4) and FL(1) depicting residues of mevinphos in/on broccoli following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at 0.87 lb ai/A (2x). Applications were made using ground equipment at 20-40 gal/A.

A single composite control sample was harvested prior to application at each test site. Except at one of the CA sites, duplicate composite treated samples of broccoli were harvested 3 days post-treatment. At one of the CA sites, duplicate composite treated samples were collected 0, 1, 3, 5, 7 and 10 days post-treatment. In addition at another of the CA test sites, 12 individual plant samples were also harvested 3 days post-treatment and were analyzed individually to examine within-field variation in residue levels.

After harvest, samples were immediately placed on ice and were frozen within 2 hours of sampling. Samples were shipped on dry ice to the analytical laboratory within 6 days

by overnight courier. At ABC laboratories, samples were stored at ≤-20 C. Prior to extraction for analysis, composited broccoli samples were stored frozen for a total of 3-20 days and the individual plant samples were stored frozen for a total of 72 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on celery is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 5 control samples. Adequate sample calculations, raw data and representative chromatograms were provided.

Total mevinphos residues were <0.02-0.95 ppm in/on 10 composite samples of broccoli harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.87 lb ai/A (Table 14). In the residue decline study, total mevinphos residues in/on broccoli declined from 0.95-1.02 ppm on Day 0 to <0.018 ppm by Day 10. For the individual plant samples, total mevinphos residues were 0.41-1.07 ppm in/on 12 broccoli plants harvested 3 days following a single application at 0.87 lb ai/A.

Table 14. Residues of mevinphos in/on broccoli following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at ~0.9 lb ai/A (2x).

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Porterville, CA	3.5 lb/gal SC/L	0.87	0	0.470, 0.533	0.482, 0.488	0.952, 1.021
			1	0.271, 0.304	0.357, 0.384	0.628, 0.688
			3	<0.015, <0.015	0.100, 0.096	<0.115, <0.111
			5	<0.007, <0.007	0.016, 0.027	<0.023, <0.034
			7	<0.007,<0.015	<0.007,<0.015	<0.014, <0.030
			10	<0.015, <0.015	<0.003,<0.003	<0.018, <0.018
Watsonville , CA	3.5 lb/gal SC/L	0.87	3	<0.015, <0.015	0.069, 0.066	<0.084, <0.081
Fresno, CA	3.5 lb/gal SC/L	0.87	3	0.204, 0.219	0.361, 0.365	0.565, 0.584
Sacramento, CA	3.5 lb/gal SC/L	0.87	3	0.393, 0.238	0.553, 0.379	0.946, 0.617
			3 [c]	0.411, 0.156, 0.244, 0.389, 0.430, 0.292, 0.150, 0.248, 0.277, 0.173, 0.333, 0.155	0.630, 0.257, 0.455, 0.646, 0.642, 0.440, 0.257, 0.440, 0.431, 0.391, 0.526, 0.334	1.041, 0.413, 0.699, 1.035, 1.072, 0.732, 0.407, 0.688, 0.708, 0.564, 0.859, 0.489
Uvalde, TX	3.5 lb/gal SC/L	0.87	3	<0.007, <0.007	0.016, 0.017	<0.023, <0.024

[a] PTI = post-treatment interval.

[b] Each value represents the analysis of a single composited sample, unless otherwise indicated.

[c] Twelve treated samples of individual plants were collected 3 days post-treatment along with the 2 composite treated samples.

AMVAC also submitted data (MRID 44595201) from an additional broccoli test conducted in Guanajuato, Mexico during 1997, in which mevinphos (SC/L) was applied to three separate plots of broccoli 0.39 lb ai/A (440 g ai/ha; 1x) using ground equipment at 22 gal/A (204 L/ha).

At 3 days post-treatment, triplicate samples of broccoli were harvested from the control plot and each of the 3 treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 55 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these

samples arrived at the laboratory within 3 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 82 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days. All samples were stored at <-20 C at the analytical laboratory for 31-70 days prior to analysis. Broccoli samples from the first and second shipments were stored frozen for a total of 89 and 154 days, respectively, prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on broccoli is 0.02 ppm. In the two control samples analyzed apparent residues of α-and β-mevinphos were 0.03 ppm and 0.12-0.16 ppm, respectively, for total mevinphos residues of 0.14-0.21 ppm. No explanation was provided for why mevinphos residue were detected in the control samples.

Total mevinphos residues were 0.17-0.26 ppm in/on 9 samples of broccoli harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.39 lb ai/A (440 g ai/ha; Table 15). Residues were essentially the same for broccoli samples which arrived at the analytical laboratory either partially thawed or frozen.

The submitted broccoli residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI (3-days) were conducted. Only a single Mexican test on broccoli was conducted at 1x with a 3-day PHI. Although five additional studies were conducted in the U.S. using the 3-day PHI, each of these tests were conducted at 2x and mevinphos residues in/on broccoli from these studies (<0.023-0.946 ppm) were substantially higher than mevinphos residues found in/on broccoli in the single Mexican study (0.166-0.261 ppm).

Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on broccoli may be too high and may need to be lowered once additional data for residues in/on broccoli are available.

Based upon the relative amount of broccoli imported from Mexico into the U.S., an additional two field trials should be conducted in Mexico on broccoli at 1x to support an import tolerance for mevinphos residues.

Table 15. Residues of mevinphos in/on broccoli harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.39 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.39	3	0.035, 0.067, [0.047]	0.131, 0.179, [0.162]	0.166, 0.246, [0.209]
				0.052, 0.056, [0.055]	0.187, 0.182, [0.149]	0.239, 0.238, [0.204]
				0.042, 0.039, [0.064]	0.158, 0.159, [0.197]	0.200, 0.198, [0.261]

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.
[c] Bracketed values are from the analysis of back-up samples shipped after the initial samples arrival partially thawed at the analytical laboratory.

Cabbage. AMVAC submitted residue data (MRID 44595218) from three tests conducted during 1993-94 in FL(1) and TX(2) depicting residues of mevinphos in/on cabbage following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at 0.87 lb ai/A (2x). Applications were made using ground equipment at 20-25 gal/A.

A single composite control sample of untrimmed and trimmed cabbage was harvested prior to application at each test site. Except at one of the TX sites, duplicate composite treated samples of trimmed and untrimmed cabbage were harvested 3 days post-treatment. At one of the TX sites, duplicate composite treated samples of untrimmed cabbage were collected 0, 1, 3, 5, 7 and 10 days post-treatment. In addition at the FL test site, 12 individual trimmed cabbage samples were also harvested 3 days post-treatment and were analyzed individually to examine within field variation in residue levels.

Samples were placed in frozen storage (<-18 C) within 1.5 hours of harvest. Samples were shipped on dry ice to the analytical laboratory within 6 days by overnight courier. At ABC laboratories, samples were stored at $\leq$-20 C. Composite and individual cabbage plant samples were stored frozen for a total of 4-54 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on cabbage is 0.019 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 3 control samples each of untrimmed and trimmed cabbage. Adequate sample calculations, raw data and representative chromatograms were provided.

Total mevinphos residues were <0.09-0.46 ppm in/on 6 composite samples of untrimmed cabbage and 0.03-0.10 ppm in/on 6 composite samples of trimmed cabbage harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.87 lb ai/A (Table 16).

For the individual plant samples of trimmed cabbage, total mevinphos residues were <0.02-0.10 ppm in/on 12 cabbage plants harvested 3 days post-treatment. In the residue decline study, total mevinphos residues in/on untrimmed cabbage declined from ~0.56 ppm on Day 0 to 0.06 ppm by Day 10.

Table 16. Residues of mevinphos in/on cabbage following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at ~0.9 lb ai/A (2x).

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Untrimmed Cabbage						
Zellwood, FL	3.5 lb/gal SC/L	0.87	3	0.176, 0.228	0.209, 0.231	0.385, 0.459
Uvalde, TX	3.5 lb/gal SC/L	0.87	0	0.337, 0.329	0.222, 0.221	0.559, 0.550
			1	0.076, 0.066	0.063, 0.069	0.139, 0.135
			3	0.037, 0.035	0.052, 0.048	0.089, 0.083
			5	0.033, 0.047	0.050, 0.069	0.083, 0.116
			7	0.021, 0.045	0.051, 0.095	0.072, 0.140
			10	0.014, <0.014	0.043, 0.041	0.057, <0.055
Raymondville, TX	3.5 lb/gal SC/L	0.87	3	0.160, 0.122	0.153, 0.128	0.313, 0.250
Trimmed Cabbage						
Zellwood, FL	3.5 lb/gal SC/L	0.87	3	0.055, 0.015	0.044, 0.018	0.099, 0.033
			3 [c]	<0.007, 0.018, <0.014, 0.018, <0.014, 0.023, 0.017, 0.020, 0.035, 0.014, 0.046, 0.021	0.007, 0.024, 0.012, 0.023, 0.019, 0.036, 0.024, 0.035, 0.048, 0.023, 0.053, 0.027	<0.014, 0.042, <0.026, 0.041, <0.033, 0.059, 0.041, 0.055, 0.083, 0.037, 0.099, 0.048
Uvalde, TX	3.5 lb/gal SC/L	0.87	3	<0.014, <0.014	0.022, 0.021	<0.036, <0.035
Raymondville, TX	3.5 lb/gal SC/L	0.87	3	0.036, 0.024	0.035, 0.025	0.071, 0.049

[a] PTI = post-treatment interval.

[b] Each value represents the analysis of a single composite sample, unless otherwise indicated.

[c] 12 treated samples of individual plants were collected 3 days post-treatment along with the 2 composite treated samples.

AMVAC also submitted data (MRID 44595202) from an additional cabbage test conducted in Guanajuato, Mexico during 1997, in which mevinphos (SC/L) was applied to three separate plots of cabbage at 0.39 lb ai/A (440 g ai/ha; 1x) using ground equipment at 24 gal/A (225 L/ha).

At 3 days post-treatment, triplicate samples of cabbage were harvested from the control plot and each of the 3 treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 3 hours of sampling. After 59 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; the third replicate was retained at the field site. Samples arrived at the analytical laboratory within 3 days in a frozen state and were stored at <-20 C at the analytical laboratory for 6 days. Prior to extraction for analysis, samples were stored frozen for a total of 68 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on leaf lettuce is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on one control sample. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on 6 samples of cabbage harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.39 lb ai/A (440 g ai/ha; Table 17).

The submitted cabbage residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) and the minimum PHI (3 days) were conducted. Only a single Mexican test on cabbage was conducted at 1x with a 3-day PHI. Although three additional studies were conducted in the U.S., each of these tests were conducted at 2x and mevinphos residues in/on cabbage from these studies (0.083-0.459 ppm) were substantially higher than mevinphos residues found in/on cabbage in the single Mexican study (<0.02 ppm).

Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on cabbage is too high and will be reassessed once additional data for residues in/on cabbage are available. A total of three field trials should be conducted in Mexico on cabbage at 1x at a PHI of 3 days to support an import tolerance for mevinphos residues.

Table 17. Residues of mevinphos in/on cabbage harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.39 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.39	3	<0.010, <0.010	<0.010, <0.010	<0.020, <0.020
				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020
				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.

Legume Vegetables Group

Tolerances for residues of mevinphos have been established at 0.25 ppm in/on peas and beans and 1.0 ppm in/on pea vines [40 CFR §180.157].

Peas, succulent. AMVAC submitted residue data (MRID 44595215) from five tests conducted during 1994 in WI (2), MN (2), and WA (1) depicting residues of mevinphos in/on succulent pea pods and pea vines and hay following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at a rate of 0.44 lb ai/A (2x) using ground equipment at 20-26 gal/A.

At each test site, a single control sample of pea pods, vines, and hay (except in WA) was harvested immediately prior to treatment; duplicate treated samples of pea pods (RAC), vines, and hay were collected 3 days post-treatment. At one of the WI sites, additional duplicate samples of each commodity were collected at 0, 1, 2, 3, 5, and 7 days post-treatment to examine residue decline. After cutting, hay samples (whole plant) were allowed to air dry for 1-2 days prior to sampling.

Samples were placed on ice and frozen within 3 hours of collection and shipped within 6 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, pea pods, vines and hay samples were stored frozen for a total of 23-34 days, except of one hay sample store for 50 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total

mevinphos residues in/on peas is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on 4 control samples each of pod, vine, and hay.

Total mevinphos residues were <0.013-0.078 ppm in/on 10 samples of whole pea pods (RAC), 0.055-0.431 ppm in/on 10 samples of vines and <0.013-0.152 in/on 8 samples of hay harvested 3 days following a 0.44 lb ai/A foliar application (Table 18). In the residue decline studies, maximum total mevinphos residues were 0.86 ppm in/on whole pods, 6.88 ppm in/on vines, and 0.46 ppm in/on hay harvested immediately (0-day) following treatment and declined steadily to <0.01 ppm in/on whole pods, vines, and hay by 7 days post-treatment.

Table 18. Residues of mevinphos in/on whole pea pods, vines, and hay harvested following a single broadcast foliar application of mevinphos (SC/L) at ~0.4 lb ai/A (2x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Whole pods (RAC)						
Lodi, WI	3.5 lb/gal SC/L	0.44	3	<0.015, <0.007	0.006, <0.006	<0.021, <0.013
Delavan, WI	3.5 lb/gal SC/L	0.44	0	0.379, 0.554	0.237, 0.306	0.616, 0.860
			1	0.125, 0.127	0.085, 0.078	0.210, 0.205
			2	0.038, 0.033	0.027, 0.025	0.065, 0.058
			3	0.019, 0.022	0.015, 0.014	0.034, 0.036
			5	<0.007, <0.007	<0.006, <0.003	<0.013, <0.010
			7	<0.007, <0.007	<0.003, <0.003	<0.010, <0.010
Sanborn, MN	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	<0.006, 0.007	<0.013, <0.014
East Grand Forks, MN	3.5 lb/gal SC/L	0.44	3	<0.015, <0.007	0.014, 0.007	<0.029, <0.014
Ephrata, WA	3.5 lb/gal SC/L	0.44	3	0.025, 0.035	0.032, 0.043	0.057, 0.078
Vines [b]						
Lodi, WI	3.5 lb/gal SC/L	0.44	3	0.049, 0.041	0.044, 0.043	0.093, 0.084
Delavan, WI	3.5 lb/gal SC/L	0.44	0	4.362, 4.032	2.515, 2.212	6.877, 6.244
			1	0.666, 0.925	0.644, 0.982	1.310, 1.907
			2	0.197, 0.133	0.343, 0.182	0.540, 0.295
			3	0.033, 0.035	0.064, 0.074	0.097, 0.109
			5	<0.007, <0.007	0.007, 0.010	<0.014, <0.017
			7	<0.007, <0.007	<0.003, <0.003	<0.010, <0.010
Sanborn, MN	3.5 lb/gal SC/L	0.44	3	0.024, 0.022	0.033, 0.033	0.057, 0.055
East Grand Forks, MN	3.5 lb/gal SC/L	0.44	3	0.060, 0.050	0.163, 0.166	0.223, 0.216
Ephrata, WA	3.5 lb/gal SC/L	0.44	3	0.204, 0.198	0.227, 0.231	0.431, 0.429
Hay [b]						
Lodi, WI	3.5 lb/gal SC/L	0.44	3	<0.015, <0.015	0.010, 0.011	<0.025, <0.026
Delavan, WI	3.5 lb/gal SC/L	0.44	0	0.112, 0.088	0.347, 0.264	0.459, 0.352
			1	0.027, 0.033	0.166, 0.13	0.143, 0.163
			2	<0.015,	0.036, 0.028	<0.051, <0.035

			3	<0.007, <0.007	0.018, 0.018	<0.025, <0.025
			5	<0.007, <0.007	<0.003, <0.003	<0.010, <0.010
			7	<0.007, <0.007	<0.003, <0.003	<0.010, <0.010
Sanborn, MN	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	<0.006, <0.006	<0.013, <0.013
East Grand Forks, MN	3.5 lb/gal SC/L	0.44	3	0.038, 0.026	0.114, 0.091	0.152, 0.117

[a] Each value represents the analysis of a single sample unless otherwise indicated.
[b] Vines and hay of succulent peas are no longer considered regulated commodities.

AMVAC also submitted data (MRID 44595206) on mevinphos residues in/on succulent pea pods from a single test conducted in Guanajuato State, Mexico during 1997. A single broadcast foliar application of Mevinphos (SC/L) was applied to applied to three separate plots of peas at 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 25 gal/A (239 L/ha).

Triplicate samples of succulent pea pods were harvested 3 days post-treatment from the control and three treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 38 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 65 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days. All samples were stored at <-20 C at the analytical laboratory for 33-70 days prior to analysis. Samples were stored frozen for a total of 74-137 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on pea pods is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on two control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on nine samples of succulent pea pods harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A.

The submitted succulent pea residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. Only a single Mexican test on peas was conducted at 1x. Although five additional studies were conducted in the U.S. on peas, each of these tests were conducted at 2x and mevinphos residues in/on pea pods from these studies (<0.013-0.078 ppm) were

substantially higher than mevinphos residues found in/on pea pods in the single Mexican study (<0.02 ppm).

Based upon the data from the Mexican study, the established 0.25 ppm tolerance for residues of mevinphos in/on peas is too high and will be reassessed once additional data for residues in/on peas are available.

Two additional field trials on succulent peas should be conducted in Mexico at 1x to support an import tolerance for mevinphos residues.

Fruiting Vegetables (except cucurbits) Group

Tolerances for residues of mevinphos have been established at 0.2 ppm in/on tomatoes and 0.25 ppm in/on peppers and eggplants [40 CFR §180.157].

Tomatoes. AMVAC submitted data (MRID 44595211) on mevinphos residues in/on tomatoes from six tests conducted in Mexico during 1997. All six tests were conducted in Sanely State, Mexico; two tests were conducted near Los Mochis and four tests were conduct in the region south of Culiacan. In each test, mevinphos (10.3 lb/gal SC/L) was applied to tomatoes as a single broadcast foliar application at 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 22-31 gal/A (202-293 L/ha).

Triplicate samples of mature tomatoes were harvested 3 days post-treatment from the control and treated plot at each test site. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 31-42 days of frozen storage, two of the treated and control samples from each test were shipped on dry ice to the analytical laboratory (ABC); the third replicate was retained at each field site. Samples arrived at the analytical laboratory within 3 days in a frozen state and were stored at <-20 C at the analytical laboratory for 6-12 days prior to extraction for analysis. All samples were stored frozen for a total of 41-57 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on tomatoes is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on six control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on 12 samples of tomatoes harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A (220 g ai/ha).

The submitted tomato residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. A total of six tests were conducted on tomatoes in Mexico at 1x with a 3-day PHI. Based upon the relative

amount of tomatoes imported from Mexico into the U.S. (~30% of the available fresh tomatoes, Appendix I), a total of ten tests are required to support an import tolerance on tomatoes. An additional four field trials should be conducted in Mexico on tomatoes at 1x. Additional storage stability data are also required to support the existing tomato residue data.

Based upon the available data, the established 0.2 ppm tolerance for residues of mevinphos in/on tomatoes is too high and will be reassessed once additional data for residues in/on tomatoes are available.

Peppers. AMVAC submitted data (MRID 44595210) on mevinphos residues in/on peppers from three tests conducted in Mexico during 1997. Two of the tests were conducted on jalapeno type peppers in Sanely and Guanajuato States, and the third test was conducted on bell type peppers in Sanely State. In each test, mevinphos (10.3 lb/gal SC/L) was applied to peppers as a single broadcast foliar application at 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 19-30 gal/A (177-279 L/ha).

Triplicate samples of mature peppers were harvested 3 days post-treatment from the control and treated plots at each test site. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 24-57 days of frozen storage, two of the treated and control samples from each test were shipped on dry ice to the analytical laboratory (ABC); the third replicate was retained at each field site. Samples arrived at the analytical laboratory within 4 days in a partially frozen state and were stored at <-20 C at the analytical laboratory for 5-101 days prior to extraction for analysis. All samples were stored frozen for a total of 49- 129 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on peppers is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on four control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on six samples of peppers harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A (220 g ai/ha).

The submitted pepper residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. A total of three tests were conducted on pepper in Mexico at 1x with a 3-day PHI. Based upon the relative amount of peppers imported from Mexico into the U.S. (~24% of the available fresh peppers, Appendix I), a total of five tests are required to support an import tolerance on peppers. An additional two field trials should be conducted in Mexico at different locations on peppers at 1x. Additional storage stability data are also required to support the existing residue data on peppers.

Based upon the available data, the established 0.25 ppm tolerance for residues of mevinphos in/on peppers is too high and will be reassessed once additional data for residues in/on peppers are available.

Cucurbit Vegetables Group

Tolerances for residues of mevinphos have been established at 0.2 ppm in/on cucumbers, 0.25 ppm in/on summer squash, and 0.5 ppm in/on melons and watermelon [40 CFR §180.157].

Cucumbers. AMVAC submitted data (MRID 44595213) on mevinphos residues in/on cucumbers from seven tests conducted during 1997 at different locations in Sanely State, Mexico; six test sites were near Culiacan and one was near Los Mochis. A single broadcast foliar application of mevinphos (10.3 lb/gal SC/L) was applied to a single plot of cucumbers at each location at a rate of 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 26-37 gal/A (209-343 L/ha).

Triplicate samples of mature cucumbers were harvested 3 days post-treatment from the control and treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 28-55 days of frozen storage, two treated and control samples from each site were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days. As samples from several of the sites were received in poor condition (thawed or broken bags), the remaining backup sample from these tests was shipped on dry ice after 74-93 days of frozen storage; these samples were received frozen within 4 days. All samples were stored at <-20 C at the analytical laboratory for 12-98 days prior to analysis. All samples were stored frozen for a total of 74-183 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on cucumbers is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on seven control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on 14 samples of cucumbers harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A.

Provided adequate supporting storage stability data and label directions are submitted, the available cucumber residue data are adequate and indicate the tolerance for mevinphos residues in/on imported cucumbers can be lowered to 0.05 ppm, the validated LOQ.

Summer Squash. AMVAC submitted data (MRID 44595209) on mevinphos residues in/on summer squash from one test conducted in Sanely State, Mexico during 1997. A

single broadcast foliar application of mevinphos (10.3 lb/gal SC/L) was applied to a three different plots of squash at a rate of 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 23 gal/A (218 L/ha).

Triplicate samples of mature squash were harvested 3 days post-treatment from the control and treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 3 hours of sampling. After 44 days of frozen storage, two treated and control samples from each site were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days. The remaining backup samples remained at the field site. Samples were stored at <-20 C at the analytical laboratory for 2 days prior to analysis for a total frozen storage interval of 49 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on cucumbers is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on one control sample. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02 ppm in/on six samples of squash harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A.

The submitted summer squash residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (220 g ai/ha) were conducted. Only a single test was conducted on summer squash in Mexico at 1x with a 3-day PHI. An additional two field trials should be conducted in Mexico on summer squash at 1x.

Based upon the available data, the established 0.25 ppm tolerance for residues of mevinphos in/on summer squash may be too high and may need to be lowered once additional data for residues in/on squash are available.

Melons. AMVAC submitted residue data (MRID 44595220) from four tests conducted during 1994 in AZ depicting residues of mevinphos in/on cantaloupe following a single broadcast foliar application of mevinphos at a rate of 0.36 or 0.44 lb ai/A (2x) using four different mevinphos formulations (3.5 lb/gal SC/L, 2.9 lb/gal SC/L, 3.6 lb/gal EC, or 2.9 lb/gal EC). Applications were made with ground equipment using 25 gal/A.

Control samples were harvested immediately prior to application. Three days post-treatment, whole cantaloupes were harvested and composited to obtain duplicate RAC samples. Duplicate subsamples of flesh were also obtained from treated melons. Samples were placed on ice and frozen within 8 hours of collection and shipped within 2 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, cantaloupe samples were stored frozen for a total of 7-11 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on cantaloupe is 0.021 ppm. Apparent residues of mevinphos were below the LOD (<0.01 ppm total mevinphos) in/on one control sample.

Total mevinphos residues in/on whole cantaloupe (RAC) were <0.013-0.026 ppm in/on 8 samples harvested 3 days following a foliar application of mevinphos (SC/L and EC) at 0.36-0.44 lb ai/A (Table 19). Total residues of mevinphos were <0.01 ppm in 8 samples of cantaloupe flesh.

Table 19. Residues of mevinphos in/on cantaloupe harvested 3 days following a single broadcast foliar application of mevinphos (EC and SC/L) at ~0.4 lb ai/A (1x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm)[d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Whole Cantaloupe (RAC)						
Somerton, AZ	3.5 lb/gal SC/L	0.44	3	<0.015, <0.007	0.011, 0.013	<0.026,<0.020
	3.6 lb/gal EC	0.44	3	<0.007, <0.007	0.012, 0.008	<0.019, <0.015
	2.9 lb/gal SC/L	0.36	3	<0.007, <0.007	0.006, <0.006	<0.013, <0.013
	2.9 lb/gal EC	0.36	3	<0.007, 0.015	0.006, 0.010	<0.013, 0.025
Cantaloupe (Flesh only)						
Somerton, AZ	3.5 lb/gal SC/L	0.44	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	3.6 lb/gal EC	0.44	3	<0.007, <0.007	<0.006, <0.003	<0.01, <0.01
	2.9 lb/gal SC/L	0.36	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01
	2.9 lb/gal EC	0.36	3	<0.007, <0.007	<0.003, <0.003	<0.01, <0.01

[a] Four different formulations were used: Phosdrin IPA4 (3.5 lb/gal SC/L), Phosdrin 4 EC (3.6 lb/gal EC), Hi-Alpha Phosdrin IPA (2.9 lb/gal SC/L), and Hi Alpha Phosdrin EC (2.9 lb/gal EC).
[b] Rates were equivalent to 1 pint formulated product per acre.
[c] PTI = post-treatment interval.
[d] Each value represents the analysis of a single sample.

AMVAC also submitted data (MRID 44595205) on mevinphos residues in/on melons from a single test conducted in Guanajuato State, Mexico during 1997. A single broadcast foliar application of mevinphos (10.3 lb/gal SC/L) was applied to three separate plots of muskmelons at 0.20 lb ai/A (220 g ai/ha; 1x) using ground equipment at 26 gal/A (241 L/ha).

Triplicate samples of mature melons were harvested 3 days post-treatment from the control and treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 3 hours of sampling. After 54 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 2 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 72 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days. All samples were stored at <-20 C at the analytical laboratory for 14-34 days prior to analysis. All samples were stored frozen for a total of 91 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on melons is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on one control sample. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were 0.024-0.068 ppm in/on six samples of melon harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.2 lb ai/A (Table 20).

Provided adequate supporting storage stability data and label directions are submitted, the available melon residue data are adequate. A total of 5 field trials were conducted, one in Mexico and four in the U.S. (AZ). Total mevinphos residues were 0.024-0.68 ppm in/on 9 samples of melons harvested 3 days following a single foliar application of mevinphos (SC/L) at 220 g ai/ha (0.2 lb ai/A) in Mexico, and $\leq$0.026 ppm in/on 8 samples of melons harvested 3 days following a single foliar application of mevinphos (EC or SC/L) at 440 g ai/ha (2x) in the U.S. Although the U.S. field trials were conducted at 2x, the low residue values in these tests supported the Mexican data.

Based upon the available data, the established 0.5 ppm tolerance for residues of mevinphos in/on melons is too high and should be reassessed to 0.1 ppm once deficiencies pertaining to the label and storage stability of residues are resolved.

Table 20. Residues of mevinphos in/on muskmelons harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.2 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.2	3	0.013, 0.034, [0.023] [c]	0.011, 0.027, [0.016]	0.024, 0.061, [0.039]
				0.020, 0.039, [0.024]	0.016, 0.029, [0.015]	0.036, 0.068, [0.039]
				0.023, 0.038, [0.028]	0.016, 0.025, [0.018]	0.039, 0.063, [0.046]

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.
[c] Bracketed values are from the analysis of back-up samples shipped after the initial samples arrival partially thawed at the analytical laboratory.

Miscellaneous Commodities

Grapes. A tolerance for residues of mevinphos has been established at 0.5 ppm in/on grapes [40 CFR §180.157].

AMVAC submitted residue data (MRID 44595219) from four tests conducted during 1993-1994 in CA (3) and WA (1) depicting residues of mevinphos in/on grapes following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at a rate of 0.87 lb ai/A (3 sites) or 1.09 lb ai/A (1 site), equivalent to ~2x. Applications were made with ground equipment using 50-197 gal/A.

At each of the test sites, a single control sample of grapes was harvested immediately prior to treatment; duplicate treated samples were collected 5 days post-treatment. To examine variation in residue levels within a field, 12 individual bunch samples were harvested 5 days following treatment at each of the test sites, and these samples were analyzed individually. Additional samples were collected from the WA trial to examine the dissipation of mevinphos residue; duplicate RAC samples were harvested immediately after application (day 0) and on 1, 3, 5, 7, and 10 days post-treatment.

Samples were placed on ice and frozen within 3 hours of collection and shipped within 7 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at $\leq$-20 C. Prior to extraction for analysis, grapes samples were stored frozen for an interval of 1-22 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The reported LOQ

for total mevinphos residues in/on grapes is 0.03 ppm. Apparent residues of mevinphos were below the LOQ (<0.03 ppm total mevinphos) in/on 4 control samples. Total mevinphos residues were <0.05-0.20 ppm in/on 8 grape samples harvested 5 days following a 0.87-1.1 lb ai/A foliar application (Table 21). In the residue decline study, total mevinphos residues were 0.9-1.0 ppm in/on grapes immediately (0-day) following treatment and declined steadily to <0.15 ppm by 10 days post-treatment.

Five days following application, total residues of mevinphos were <0.03-0.107 ppm in/on 12 individual grape bunches from Turlock, CA and 0.059-0.296 ppm in/on 12 individual grape bunches from Woodland, WA (Table 22).

Table 21. Residues of mevinphos in/on grapes harvested following a single broadcast foliar application of mevinphos (SC/L) at 0.9-1.1 lb ai/A (2x).

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm)		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Thermal, CA	3.5 lb/gal SC/L	1.09	5	<0.022, <0.022	0.023, 0.033	<0.045, <0.055
Porterville, CA	3.5 lb/gal SC/L	0.87	5	0.065, 0.056	0.045, 0.044	0.110, 0.100
Turlock, CA	3.5 lb/gal SC/L	0.87	5	0.032, 0.037	0.047, 0.050	0.079, 0.087
Woodland, WA	3.5 lb/gal SC/L	0.87	0	0.646, 0.606	0.312, 0.294	0.958, 0.900
			1	0.442, 0.423	0.243, 0.266	0.685, 0.649
			3	0.264, 0.232	0.180, 0.152	0.444, 0.384
			5	0.097, 0.097	0.098, 0.094	0.195, 0.191
			7	0.101, 0.075	0.103, 0.080	0.204, 0.155
			10	0.053, 0.069	0.062, 0.076	0.115, 0.145

[a] PTI = post-treatment interval.

Table 22. Residues of mevinphos in/on 12 separate samples of grapes from two test plots harvested 5 days following a single broadcast foliar application of mevinphos (3.5 lb/gal SC/L) at ~0.8 lb ai/A (2x).

Location	Rate (lb ai/A)	Mevinphos Residues (ppm) [a]		
		α-isomer	β-isomer	Total
Turlock, CA	0.87	<0.022, 0.047, 0.042, <0.022, <0.022, <0.022, 0.037, 0.023, <0.022, <0.022, <0.022, <0.022	0.015, 0.060, 0.038, 0.021, 0.012, 0.008, 0.039, 0.029, 0.022, <0.008, 0.011, 0.009	<0.037, 0.107, 0.080, <0.043, <0.034, <0.030, 0.076, 0.052, <0.044, <0.030, <0.033, <0.031
Woodland, WA	0.87	0.071, 0.085, 0.132, 0.037, 0.115, 0.136, 0.059, 0.028, 0.052, 0.154, 0.027, 0.102	0.069, 0.079, 0.120, 0.042, 0.119, 0.114, 0.068, 0.032, 0.051, 0.142, 0.032, 0.089	0.140, 0.164, 0.252, 0.079, 0.234, 0.250, 0.127, 0.060, 0.103, 0.296, 0.059, 0.191

[a] Each value represents the analysis of a single sample. The LOQs for the α- and β-isomers are0.022 and 0.008 ppm, respectively

AMVAC also submitted data (MRID 44595212) on mevinphos residues in/on grapes from six field trials conducted during 1997 in Mexico in the states of Sonora (5) and N. Baja California (1); three of the Sonoran tests were conducted near Hermosillo and two were conducted near Herocia Caborca. A single broadcast foliar application of mevinphos (10.3 lb/gal SC/L) was applied to a single plot at each test site at 0.40 lb ai/A (440 g ai/ha; 1x) using ground equipment at 87-116 gal/A (810-1086 L/ha).

Triplicate samples of mature grapes were harvested 5 days post-treatment from the control and treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 12-29 days of frozen storage at the test sites, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 4 days. All samples were stored at <-20 C at the analytical laboratory for 12-14 days prior to analysis. All samples were stored frozen for a total of 28-45 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The reported LOQ for total mevinphos residues in/on grapes is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on six control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were <0.02-0.03 ppm in/on 12 samples of grapes harvested 5 days following a single foliar application of mevinphos (SC/L) at 0.4 lb ai/A (Table 23).

Table 23. Residues of mevinphos in/on grapes harvested 5 days following a single broadcast foliar application of mevinphos (SC/L) at 0.4 lb ai/A (1x) from six tests in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Pesqueira, Sonora	10.3 lb/gal SC/L	0.4	5	0.012, 0.016	0.010, 0.014	0.022, 0.030
Pesqueira, Sonora				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020
Pesqueira, Sonora				0.014, <0.010	<0.010, <0.010	<0.024, <0.020
Heroica Caborca, Sonora				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020
Heroica Caborca, Sonora				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020
Mexicali, N. Baja California				<0.010, <0.010	<0.010, <0.010	<0.020, <0.020

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.

Provided the use rate and PHI in the Mexican studies is supported by the requested mevinphos EP labels, the submitted grape data partially satisfy the field trial requirement to permit reassessment of the tolerance for mevinphos residues in/on grapes imported from Mexico. As the U.S. studies were conducted at 2x the rate used in the Mexican field studies, residue data from the U.S. study were not used to reassess the import tolerance on grapes. Note that most PDP grape monitoring samples bearing detectable mevinphos residues originated in Chile, the major grape exporting country but one in which mevinphos use has not been reported by AMVAC. This is evidence that residues cannot be assumed to result solely from the use in Mexico simply because that is the country AMVAC wishes to generate field trails. As a result, HED is requiring additional data in strict compliance with the Import Tolerance Guidelines, i.e., three studies in Chile, two in Italy, and one each in France and Argentina.

Strawberries. A tolerance for residues of mevinphos has been established at 1.0 ppm in/on strawberries [40 CFR §180.157].

AMVAC submitted residue data (MRID 44595216) from 20 tests conducted during 1994 in CA (12), FL (4) and OR (4) depicting residues of mevinphos in/on strawberries following a single broadcast foliar application of mevinphos at a rate of 0.71 or 0.87 lb ai/A (2x) using four different mevinphos formulations (3.5 lb/gal SC/L, 2.9 lb/gal SC/L,

3.6 lb/gal EC, or 2.9 lb/gal EC). Applications were made with ground equipment using 25-150 gal/A.

Control strawberries were harvested from each test immediately prior to application. Three days post-treatment, strawberries were harvested and composited to obtain duplicate treated samples from each test. Additional samples were harvested from the OR test examine dissipation of mevinphos residues; duplicate strawberry samples were harvested immediately after application (Day 0) and 1, 3, 5, 7, and 10 days after application. Samples were placed on ice and frozen within 3 hours of collection and shipped within 7 days on dry ice to the analytical laboratory (ABC) by overnight courier. At ABC laboratories, samples were stored at ≤-20 C. Prior to extraction for analysis, strawberry samples were stored frozen up to 30 days.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on strawberry is 0.03 ppm. Apparent residues of mevinphos were below the LOQ (<0.03 ppm total mevinphos) in/on 5 control samples.

Total mevinphos residues were 0.18-1.3 ppm in/on 40 strawberry samples harvested 3 days following a foliar application of mevinphos (SC/L or EC) at 0.71-0.87 lb ai/A (Table 24). In the residue decline studies, maximum total mevinphos residues in/on strawberries were 1.3 ppm immediately (0-day) following treatment and declined steadily to a maximum of 0.21 ppm by 10 days post-treatment.

Table 24. Residues of mevinphos in/on strawberries harvested following a single broadcast foliar application of mevinphos (EC and SC/L) at 0.7-0.9 lb ai/A (2x).

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Porterville, CA	3.5 lb/gal SC/L	0.87	3	0.174, 0.242	0.156, 0.157	0.330, 0.399
	3.6 lb/gal EC	0.87	3	0.191, 0.194	0.131, 0.152	0.322, 0.346
	2.9 lb/gal SC/L	0.71	3	0.201, 0.138	0.057, 0.042	0.258, 0.180
	2.9 lb/gal EC	0.71	3	0.216, 0.138	0.069, 0.052	0.285, 0.190
Watsonville, CA	3.5 lb/gal SC/L	0.87	3	0.480, 0.543	0.336, 0.363	0.816, 0.906
	3.6 lb/gal EC	0.87	3	0.559, 0.801	0.339, 0.484	0.898, 1.285
	2.9 lb/gal SC/L	0.71	3	0.617, 0.596	0.150, 0.151	0.767, 0.747
	2.9 lb/gal EC	0.71	3	0.852, 0.694	0.198, 0.159	1.05, 0.853

(*Continued; footnotes follow*)

Table 24. *Continued.*

Trial location	Application Data		PTI [c] (days)	Mevinphos Residues (ppm) [d]		
	Formulation [a]	Rate (lb ai/A) [b]		α-isomer	β-isomer	Total
Clovis, CA	3.5 lb/gal SC/L	0.87	3	0.468, 0.491	0.276, 0.278	0.744, 0.769
	3.6 lb/gal EC	0.87	3	0.496, 0.461	0.276, 0.258	0.772, 0.719
	2.9 lb/gal SC/L	0.71	3	0.331, 0.262	0.076, 0.061	0.407, 0.323
	2.9 lb/gal EC	0.71	3	0.395, 0.389	0.088, 0.088	0.483, 0.477
Melrose, FL	3.5 lb/gal SC/L	0.87	3	0.326, 0.374	0.462, 0.260	0.788, 0.634
	3.6 lb/gal EC	0.87	3	0.614, 0.821	0.392, 0.525	1.006, 1.346
	2.9 lb/gal SC/L	0.71	3	0.543, 0.556	0.156, 0.137	0.699, 0.693
	2.9 lb/gal EC	0.71	3	0.634, 0.878	0.168, 0.219	0.802, 1.097
Forest Grove, OR	3.5 lb/gal SC/L	0.87	0	0.478, 0.438	0.221, 0.201	0.699, 0.639
			1	0.350, 0.438	0.172, 0.217	0.522, 0.655
			3	0.384, 0.239	0.254, 0.173	0.638, 0.412
			5	0.068, 0.084	0.061, 0.078	0.129, 0.162
			7	0.065, 0.047	0.087, 0.067	0.152, 0.114
			10	0.028, 0.026	0.055, 0.055	0.083, 0.081
	3.6 lb/gal EC	0.87	0	0.676, 0.984	0.275, 0.298	0.951, 1.282
			1	0.475, 0.496	0.21, 0.22	0.685, 0.716
			3	0.338, 0.385	0.192, 0.229	0.530, 0.614
			5	0.209, 0.252	0.161, 0.175	0.370, 0.427
			7	0.158, 0.135	0.150, 0.134	0.308, 0.269
			10	0.088, 0.058	0.124, 0.088	0.212, 0.146
	2.9 lb/gal SC/L	0.71	0	0.635, 0.771	0.110, 0.124	0.745, 0.895
			1	0.554, 0.595	0.099, 0.106	0.653, 0.701
			3	0.524, 0.439	0.112, 0.098	0.636, 0.537
			5	0.213, 0.142	0.065, 0.043	0.278, 0.185
			7	0.165, 0.128	0.057, 0.048	0.222, 0.176
			10	0.069, 0.090	0.036, 0.046	0.105, 0.136
	2.9 lb/gal EC	0.71	0	0.720, 0.708	0.120, 0.173	0.840, 0.881
			1	0.480, 0.552	0.088, 0.095	0.568, 0.647
			3	0.316, 0.416	0.070, 0.092	0.386, 0.508
			5	0.129, 0.165	0.043, 0.053	0.172, 0.218
			7	0.082, 0.199	0.028, 0.066	0.111, 0.265
			10	0.056, 0.081	0.030, 0.040	0.086, 0.121

[a] Four different formulations were used at each site; Phosdrin IPA4 (3.5 lb/gal SC/L), Phosdrin 4 EC (3.6 lb/gal EC), Hi-Alpha Phosdrin IPA (2.9 lb/gal SC/L), and Hi Alpha Phosdrin EC (2.9 lb/gal EC).

[b] Rates were equivalent to 2 pints formulated product per acre.

[c] PTI = post-treatment interval.

[d] Each value represents the analysis of a single sample.

AMVAC also submitted data (MRID 44595208) on mevinphos residues in/on strawberries from a single test conducted in Guanajuato State, Mexico during 1997. A single broadcast foliar application of mevinphos (10.3 lb/gal SC/L) was applied to applied to three separate plots of strawberries at 0.4 lb ai/A (440 g ai/ha; 1x) using ground equipment at 24 gal/A (228 L/ha).

Triplicate samples of strawberries were harvested 3 days post-treatment from the control and treated plots. Samples were placed on blue ice and transferred to freezers (<-18 C) within 6 hours of sampling. After 43 days of frozen storage, two of the samples from each plot were shipped on dry ice to the analytical laboratory; these samples arrived at the laboratory within 3 days and were partially thawed. Therefore, the remaining replicate samples were shipped on dry ice after 70 days of frozen storage to the analytical laboratory; these samples were received frozen within 2 days. All samples were stored at <-20 C at the analytical laboratory for 32-76 days prior to analysis. All samples were stored frozen for a total of 78-148 days prior to extraction for analysis.

Residues were determined using the adequate GC/FPD (phosphorus mode) method described in the Residue Analytical Method section of this report. The LOQ for total mevinphos residues in/on strawberries is 0.02 ppm. Apparent residues of mevinphos were below the LOQ (<0.02 ppm total mevinphos) in/on two control samples. Adequate sample calculations, raw data and representative chromatograms were provided. Total mevinphos residues were 0.20-0.25 ppm in/on nine samples of strawberries harvested 3 days following a single foliar application of mevinphos (SC/L) at 0.4 lb ai/A (Table 25).

The submitted strawberry residue data are not adequate as an insufficient number of tests reflecting the maximum use rate (440 g ai/ha) were conducted. Only a single Mexican test was conducted on strawberries at 1x. Although an additional 20 tests were conducted in the U.S. using the 3-day PHI, each of these tests were conducted at 2x and mevinphos residues in these tests (0.180-1.346 ppm) were substantially higher than residues found in the single Mexican study (0.196-0.246 ppm). Five out of the 40 samples from the U.S. tests exceeded the existing 1.0 ppm tolerance.

Based upon the data from the Mexican study, the established 1.0 ppm tolerance for residues of mevinphos in/on strawberries may be too high and may need to be lowered once additional data for residues in/on strawberries are available.

Based upon the relative amount of strawberries imported from Mexico into the U.S. (<4% of the available fresh strawberries, Appendix I), at least two additional field trials should be conducted on strawberries in Mexico at different locations in order to support an import tolerance.

Table 25. Residues of mevinphos in/on strawberries harvested 3 days following a single broadcast foliar application of mevinphos (SC/L) at 0.4 lb ai/A (1x) from a single test in Mexico.

Trial location	Application Data		PTI [a] (days)	Mevinphos Residues (ppm) [b]		
	Formulation	Rate (lb ai/A)		α-isomer	β-isomer	Total
Guanajuato, Mexico	10.3 lb/gal SC/L	0.4	3	0.145, 0.146, [0.132] [c]	0.065, 0.061, [0.070]	0.214, 0.207, [0.202]
				0.161, 0.133, [0.161]	0.076, 0.063, [0.085]	0.237, 0.196, [0.246]
				0.162, 0.152, [0.153]	0.071, 0.071, [0.085]	0.233, 0.233, [0.238]

[a] PTI = post-treatment interval.
[b] Each value represents the analysis of a single composite sample.
[c] Bracketed values are from the analysis of back-up samples shipped after the initial samples arrival partially thawed at the analytical laboratory.

Magnitude of the Residue in Processed Food/Feed

No magnitude of the residue data for grapes or tomatoes were included in AMVAC's current submissions. Processing studies on grapes and tomatoes are required to support import tolerances for these crops if the imported crops are likely to be processed in the U.S. or if their processed commodities are imported from Mexico. Alternatively, the registrant may provide information/data indicating that mevinphos-treated grapes and tomatoes are unlikely to be used for processing in either Mexico or the U.S.

AGENCY MEMORANDA CITED IN THIS DOCUMENT

DP Barcode: D183036
Subject: Mevinphos. Guideline 171-4(b) Nature of the Residue in Lactating Goats.
From: S. Knizner
To: K. Samek
Date: 2/1/93
MRID(s): 42476701

DP Barcode: D183034 and D184563
Subject: Mevinphos. Guideline 171-4(a) Nature of the Residue in Lettuce and Strawberries.
From: S. Knizner
To: K. Samek
Date: 2/9/93
MRID(s): 42475601 and 42540101

DP Barcode: D189713
Subject: Mevinphos. Guideline 171-4(a) Nature of the Residue in Turnips.
From: S. Knizner
To: K. Samek
Date: 7/29/93
MRID(s): 42674001

DP Barcode: D189714
Subject: Mevinphos. Guideline 171-4(b) Nature of the Residue in Poultry.
From: S. Knizner
To: K. Samek
Date: 8/16/93
MRID(s): 42659201

DP Barcodes: D223005 and D227401
Subject: Mevinphos- Field Trial Data Requirements for Establishing Tolerances on Imported Commodities.
From: G.F. Kramer
To: D. McCall
Date: 7/17/96
MRID(s): None

MASTER RECORD IDENTIFICATION NUMBER

42964601 Schweitzer, M.; Andrews, K. (1993) Enforcement Validation for the Determination of Mevinphos Residues in Crop Samples: Lab Project Number: SC930248. Unpublished study prepared by Battelle. 36 p.

44595201 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Broccoli Grown in Mexico: Lab Project Number: AMV96001. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 69 p.{OPPTS 860.1500}

44595202 Kent, Y; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Cabbage Grown in Mexico: Lab Project Number: AMV96002. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 68 p.{OPPTS 860.1500}

44595203 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Spinach Grown in Mexico: Lab Project Number: AMV96003. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 69 p.{OPPTS 860.1500}

44595204 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Leaf Lettuce Grown in Mexico: Lab Project Number: AMV96004. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 69 p.{OPPTS 860.1500}

44595205 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Melons in Mexico: Lab Project Number: AMV96005. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 67 p. {OPPTS860.1500}

44595206 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Peas Grown in Mexico: Lab Project Number: AMV96006. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 69 p. {OPPTS860.1500}

44595207 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Spinach Grown in Mexico: Lab Project Number: AMV96007 Project Number: AMV96007. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 69 p.{OPPTS 860.1500}

44595208 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Strawberries Grown in Mexico: Lab Project Number: AMV96008.

Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 70 p.{OPPTS 860.1500}

44595209 Kent, Y.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Squash Grown in Mexico: Lab Project Number: AMV96009. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 68 p. {OPPTS860.1500}

44595210 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Peppers Grown in Mexico: Lab Project Number: AMV96010. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 90 p.{OPPTS 860.1500

44595211 Taylor, A.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Tomato Grown in Mexico: Lab Project Number: AMV96011. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 123 p.{OPPTS860.1500}

44595212 Kent, Y.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Grapes Grown in Mexico: Lab Project number: AMVAC96012. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 122 p. {OPPTS860.1500}

44595213 Kent, Y.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Cucumber Grown in Mexico: Lab Project Number: AMV96013. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 134 p.{OPPTS 860.1500}

44595213 Kent, Y.; Obrist, J. (1998) Determination of Magnitude of Residues of Mevinphos in/on Cucumber Grown in Mexico: Lab Project Number: AMV96013. Unpublished study prepared by Pesticides Regulatory Advisory and ABC Laboratories. 134 p.{OPPTS 860.1500}

44595214 Obrist, J. (1997) Magnitude of Mevinphos Residues in Celery: Lab Project Number: 957SARS-93-07: SARS-93-CA-16C: 41278. Unpublished study prepared by ABC Laboratories and Stewart Agricultural Research. 190 p.

44595215 Obrist, J. (1997) Magnitude of Mevinphos Residues in Succulent Peas: Lab Project Number: 41342: SARS-93-10: SARS-94-MN-19B. Unpublished study prepared by ABC Labs. 237 p.

44595216 Obrist, J. (1997) Magnitude of Mevinphos Residues in Strawberries: Lab Project Number: 93335: SARS-93-12. Unpublished study prepared by ABC Laboratories. 222p.

44595217 Obrist, J. (1997) Magnitude of Mevinphos Residues in Spinach: Lab Project Number: 41277: SARS-93-06. Unpublished study prepared by ABC Laboratories. 189 p.

44595218 Obrist, J. (1997) Magnitude of Mevinphos Residues in Cabbage: Lab Project Number: 41273: SARS-93-02. Unpublished study prepared by ABC Labs. 169 p.

44595219 Obrist, J. (1997) Magnitude of Mevinphos Residues in Grapes: Lab Project Number: 93325: SARS-93-11. Unpublished study prepared by ABC Laboratories. 180 p.

44595220 Obrist, J. (1997) Magnitude of Mevinphos Residues in Cantaloupe: Lab Project Number: 93-08: 41279. Unpublished study prepared by ABC Laboratories. 125 p.

44595221 Obrist, J. (1997) Magnitude of Mevinphos Residues in Leaf Lettuce: Lab Project Number: SARS-93-05: 41276. Unpublished study prepared by ABC Laboratories. 257 p

44608501 Obrist, J. (1997) Magnitude of Mevinphos Residues in Broccoli: SARS-93-01: Lab Project Number: 41270: SARS-93-01:SARS-93-CA-10A. Unpublished study prepared by ABC Labs., Inc. 192 p.

44608502 Obrist, J. (1997) Magnitude of Mevinphos Residues in Head Lettuce: SARS-93-04: Lab Project Number: 41275: SARS-93-04:SARS-93-CA-13A. Unpublished study prepared by ABC Labs., Inc. 225 p.

Appendix I. Mexican imports of selected fresh fruits and vegetables and their % of total available commodity in the U.S.

Crop	U.S. Production (metric tons) [b]			Mexican Imports to U.S. (metric tons) [c]			Crop Available (metric tons)	Mexican imports as a % of available commodity in U.S.
	1995	1996	Average	1995	1996	Average		
Broccoli (fresh)	627918	643567	635742.5	17533	23054	20293.5	656036	3.10
Cabbage	1043007	1112726	1077866.5	NA [d]	NA	NA	1077866.5	NA
Celery	854128	855534	854831	9165	4432	6798.5	861629.5	0.80
Cucumbers (fresh)	457183	446569	451876	238988	293753	266370.5	718246.5	37.00
Grapes (fresh)	641390	537062	589226	80492	60623	70557.5	391521.031	12.00
Lettuce (head)	28281506	29870460	29076000	18498	10025	14261.5	16448211	0.05
Lettuce (leaf)	791713	807634	799673.5					
Melons	2905488	3220150	3062819	286252	399500	342876	3405695	10.00
Peas, succulent	NA	NA	NA	NA	NA	NA	NA	NA
Peppers (fresh)	654590	768988	711789	203970	246406	225188	936977	24.00
Spinach (fresh)	80559	75025	77792	1244	1185	1214.5	79006.5	1.50
Summer Squash	NA	NA	NA	113219	135439	124329	124329	NA
Strawberries (fresh)	727212	738234	732723	25894	29434	27664	760387	3.60
Tomatoes (fresh)	1566507	1567823	1567165	593064	685677	639370.5	2206535.5	29.00

[a] Only data 1995 and 1996 were used to calculated average production or imports because imports from Mexico significantly increased following enactment of NAFTA in 1994.

[b] Data on U.S. production were obtained from *Agricultural Statistics, 1997*; As data on only fresh imported products were available for Mexico, only data on production of fresh commodities in U.S. were used for comparison.

[c] Data on amounts imported fresh fruits and vegetables from Mexico was obtained from the Foreign Agricultural Service, USDA (www.fas.usda.gov/itp/policy/nafta).

[d] NA - data on specific commodity were not available for this review.